

# Rendre lisibles les villes invisibles

---

Hubcab, senseable city lab, 2014



---

Boris Beaude - Chôros, École Polytechnique Fédérale de Lausanne

Eidolon 2014 - Université de Laval - 3 juillet 2014



# Rendre lisibles les villes invisibles



Industries & solutions Services Products Support & downloads My IBM

United States

Welcome [ IBM Sign in / Register ]

Search

A Smarter Planet > Explore by industry or topic > Cities > What is a Smarter City? >

## Smarter Cities



What is a Smarter City?

Planning and management

Infrastructure

People

Solutions

Library



### It's all about leadership

Michael Dixon on engaging communities for smarter cities.

[▶ Watch the video.](#) (00:03:49)



### Smarter, More Competitive Cities

Cultivating charisma, resiliency and vitality.

[➔ Register to download.](#)



### ESSC 2014, July 7-9, Rome

[➔ Register now for the European Social Service Conference: Investing in People.](#)

## For smarter cities, technology answers



Smarter cities of all sizes are capitalizing on new technologies and insights to transform their systems, operations and service delivery.

### Join the conversation #SmarterPlanet



### Planning and management

Long term insights based on comprehensive data analysis, followed up through efficient daily management, help



# Rendre lisibles les villes invisibles

[Industries & solutions](#)[Services](#)[Products](#)[Support & downloads](#)[My IBM](#)[United States](#)[Welcome \[ IBM Sign in / Register \]](#)

Marketing

## Smarter Marketing

Marketing strategies to transform the role of the CMO

[Overview](#)[Conversations](#)[Case studies](#)[Solutions](#)[Videos](#)

### The new science of giving people what they want



[Welcome to the era of the Chief Executive Customer](#)  
(735KB)

With technology now infused into every aspect of commerce, the entire craft of marketing becomes more instrumented, interconnected and intelligent. This leads to profound changes in ways the discipline is understood, led and practiced.

The onus of this evolution has landed on the doorstep of the Chief Marketing Officer. And that means that the mind-set, as well as the skill set, of a CMO has to evolve right along with it.



**The way you understand your customer is about to change.**

[Watch an expert's perspective](#) (00:01:15) (00:01:15)

### Three mandates for the new CMO have taken shape



#### More on the art and science of marketing



**Marketing science: from descriptive to prescriptive**

[→ Learn More](#)



# Rendre lisibles les villes invisibles

[Industries & solutions](#)[Services](#)[Products](#)[Support & downloads](#)[My IBM](#)[United States](#)[Welcome \[ IBM Sign in / Register \]](#)[A Smarter Planet >](#)

## Big Data

Data savvy. Insight driven.

[What is big data?](#)[Big data technology](#)[Big data conversations](#)

## What is Big Data?



Big data is being generated by everything around us at all times. Every digital process and social media exchange produces it. Systems, sensors and mobile devices transmit it. Big data is arriving from multiple sources at an alarming velocity, volume and variety. To extract meaningful value from big data, you need optimal processing power, analytics capabilities and skills.

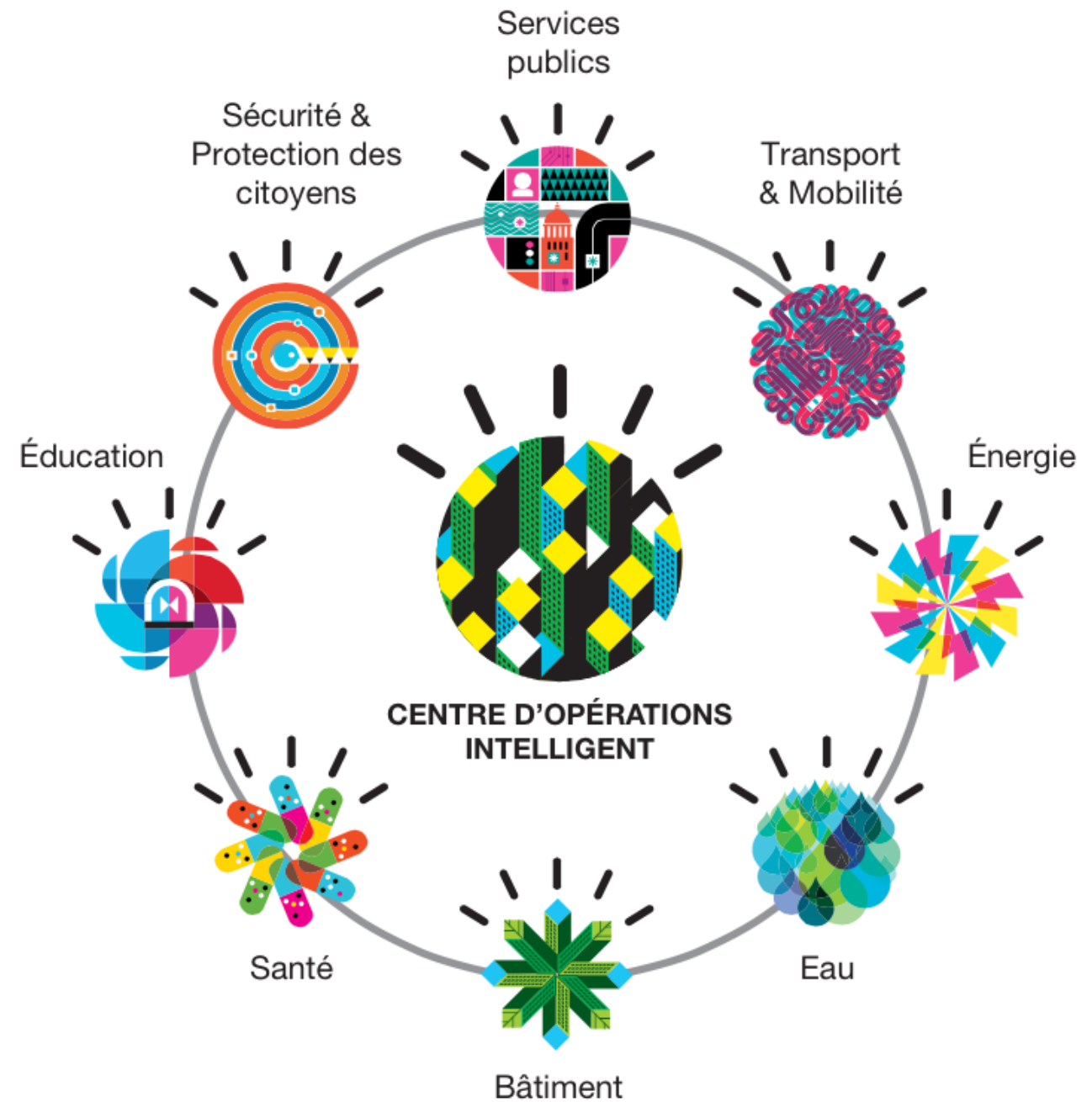
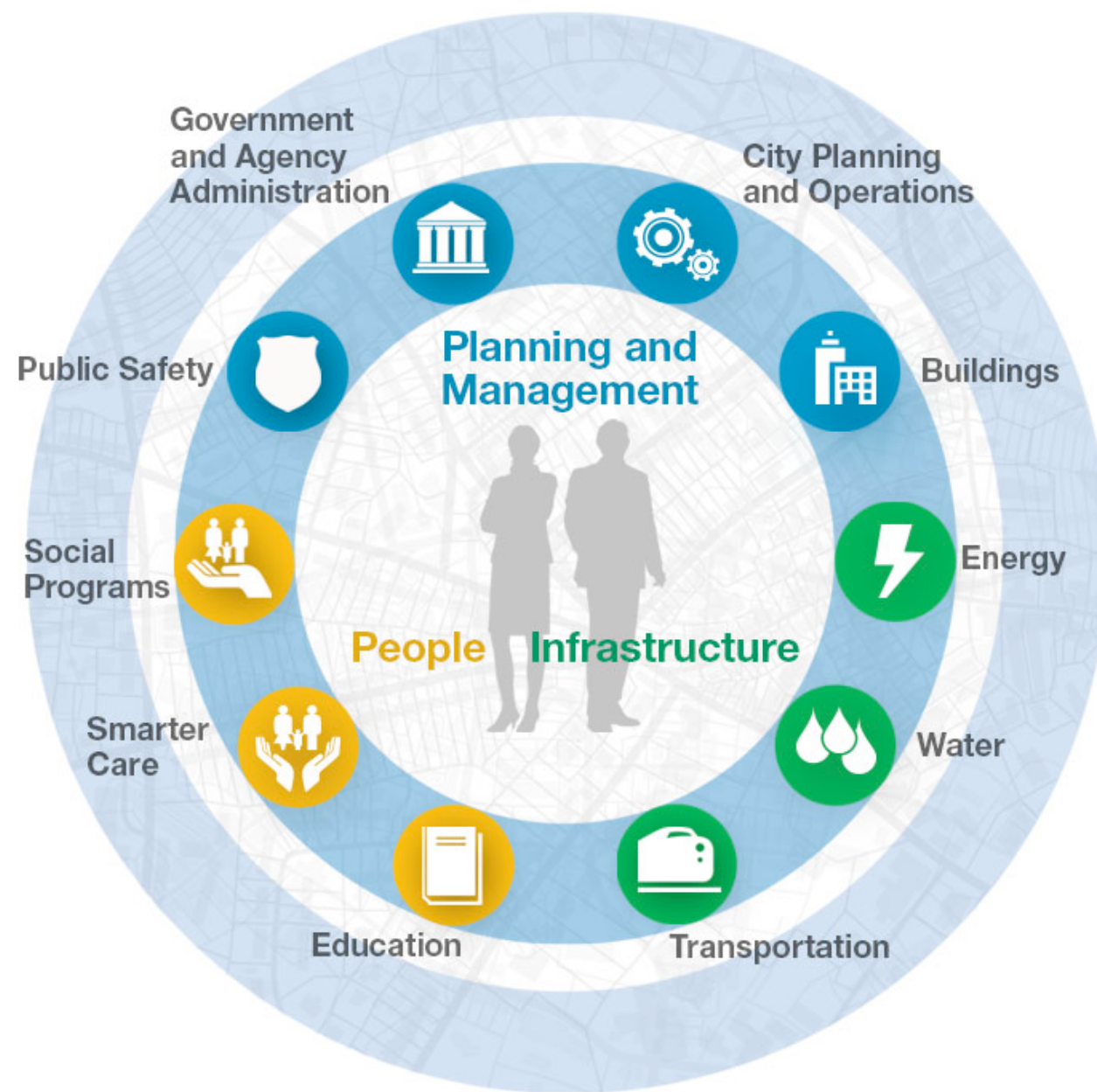
[Get started with big data and analytics](#)

## What is changing in the realm of big data?

Big data is changing the way people within organizations work together. It is creating a culture in which business and IT



# Rendre lisibles les villes invisibles



IBM, Smarter Cities, 2013



# Rendre lisibles les villes invisibles

---

« An Interview with Marshall McLuhan »

*Playboy, Mars 1969.*

“The computer can be used to direct a network of global thermostats to pattern life in ways that will optimize human awareness”

“Already, it’s technologically feasible to employ the computer to program societies in beneficial ways.”

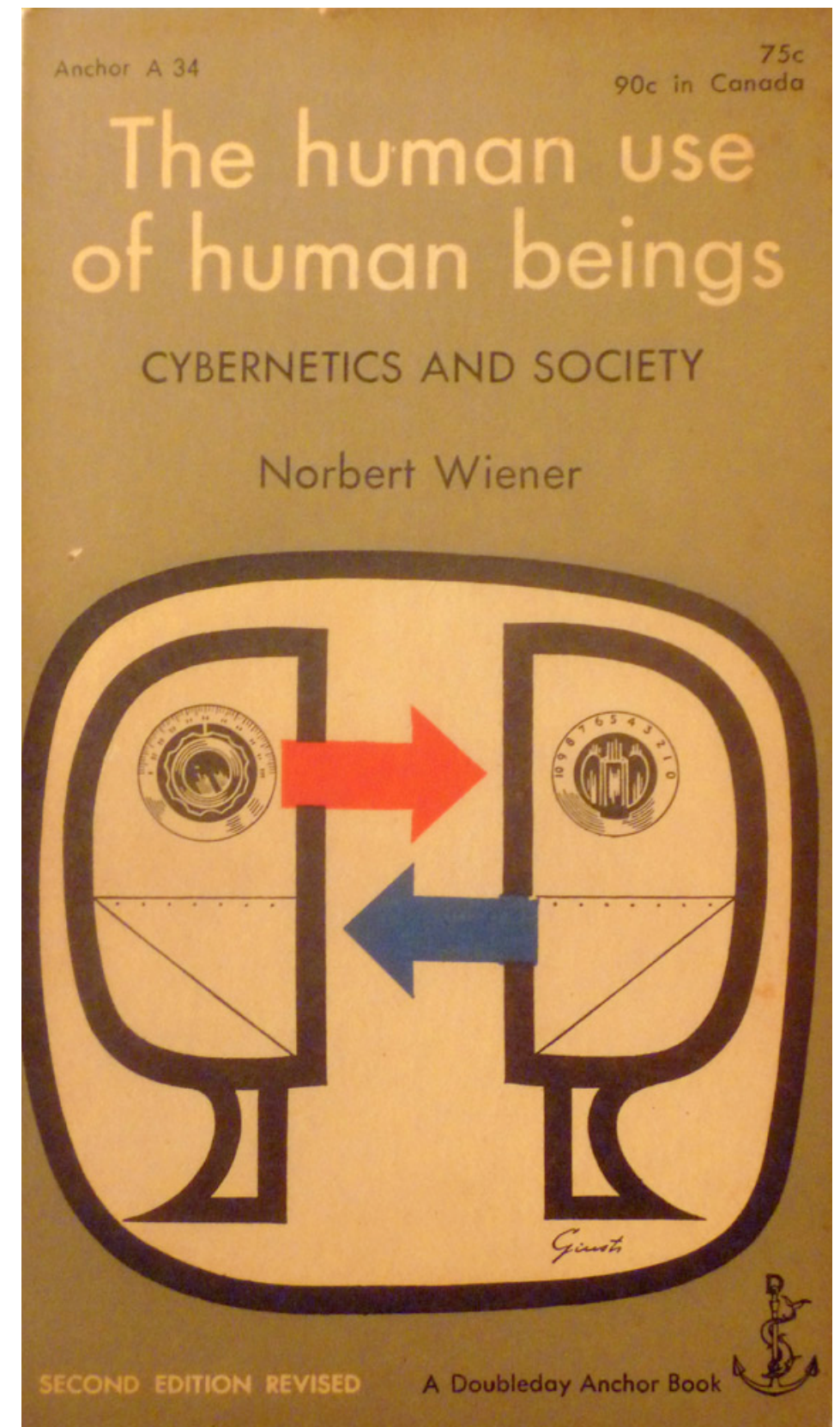




# Rendre lisibles les villes invisibles

« The human use of human beings »

*Norbert Wiener, 1950.*

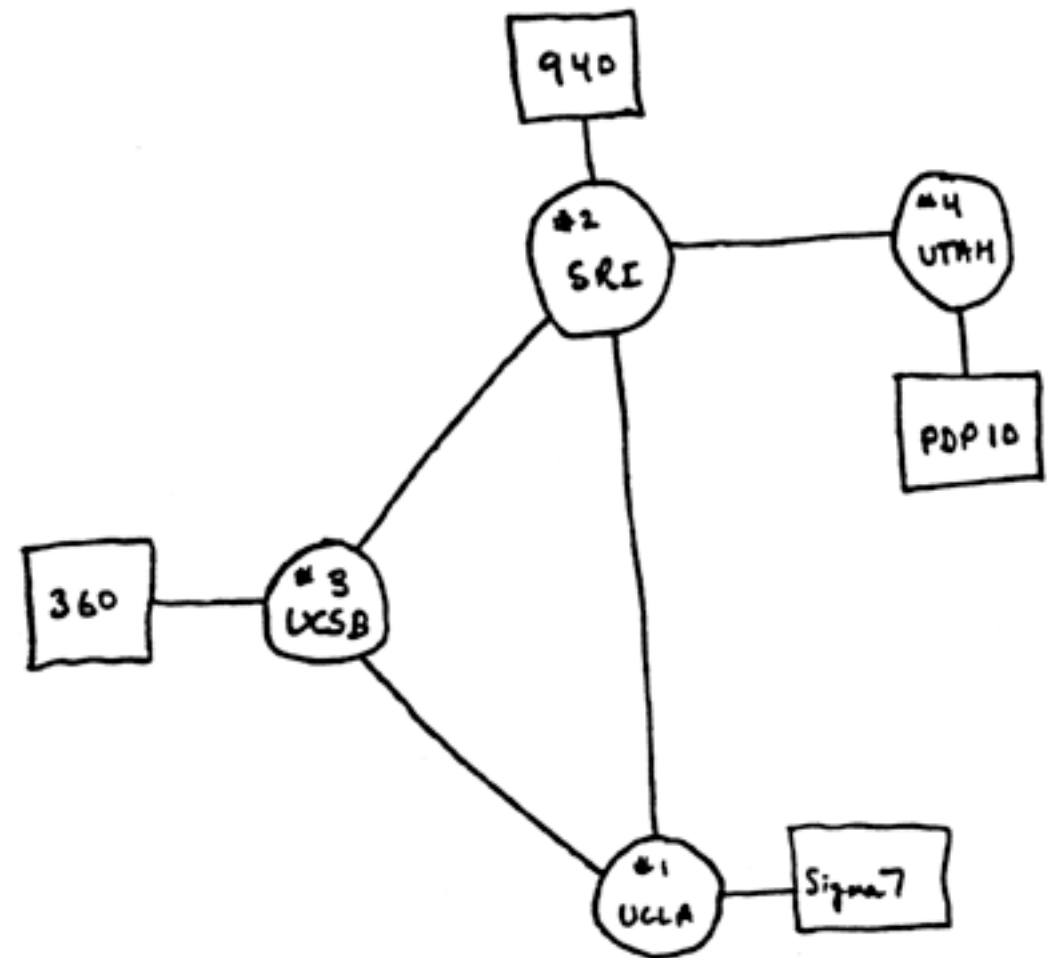




# Rendre lisibles les villes invisibles

## « 4-node ARPANET diagram »

*Steve Crocker ?, 1969.*



# Rendre lisibles les villes invisibles

---

« The End of Theory: The Data Deluge Makes the Scientific Method Obsolete »

*Chris Anderson, Wired, 23 juin 2008.*



« *The Petabyte Age is different because more is different* »

« *With enough data, the numbers speak for themselves* »

« *hypothesize, model, test is becoming obsolete* »

« *Petabyte allow us to say : correlation is enough* »

« *There is no reason to cling to our old ways. It's time to ask : what can science learn from Google* »



# Rendre lisibles les villes invisibles

---

« Big Data : A revolution that will transform how we live, work, and think »

*Viktor Mayer-Schönberger et Kenneth Cukier, 2013.*

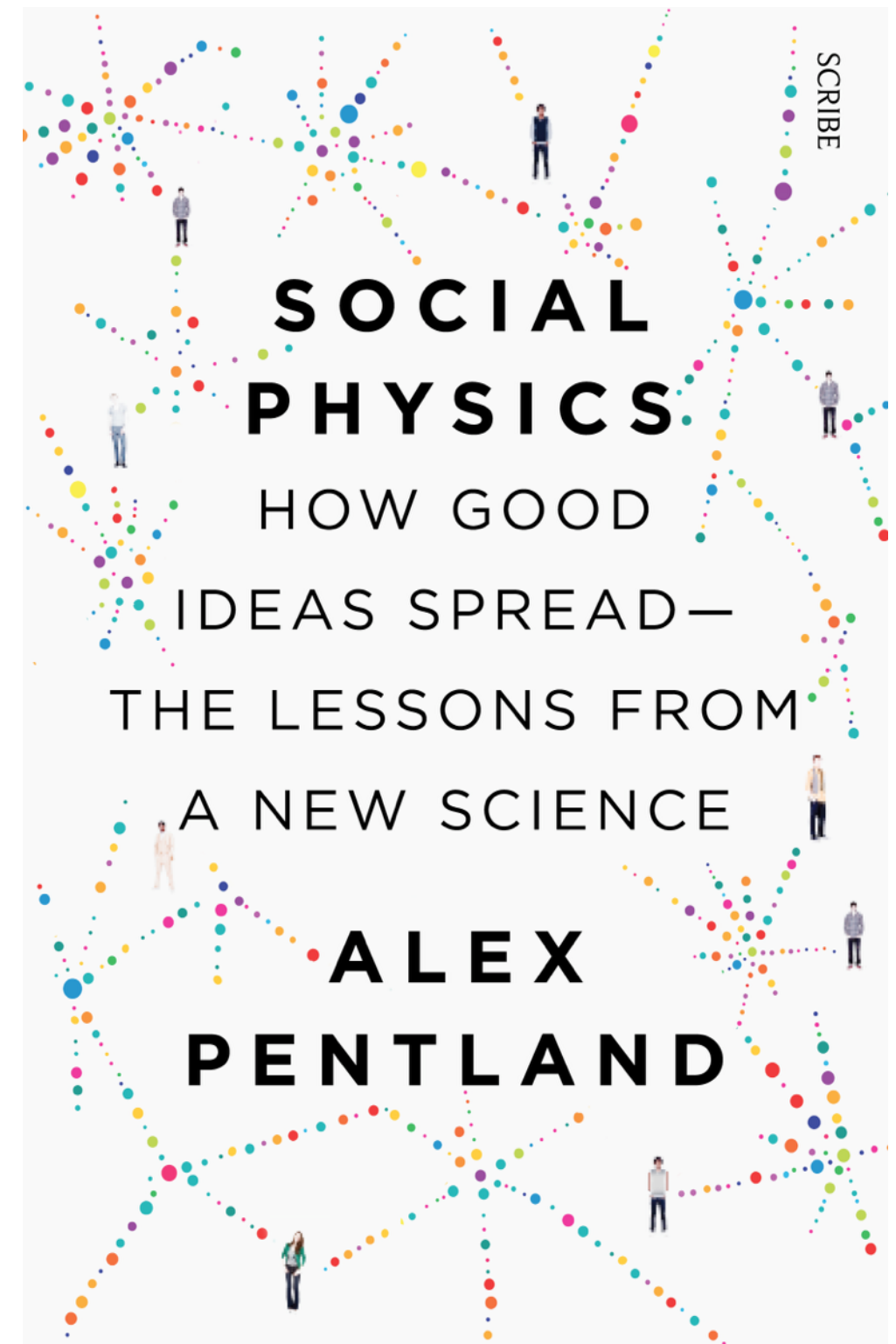


# Rendre lisibles les villes invisibles

---

## « Social Physics »

*Alex Pentland, janvier 2014.*





# Rendre lisibles les villes invisibles

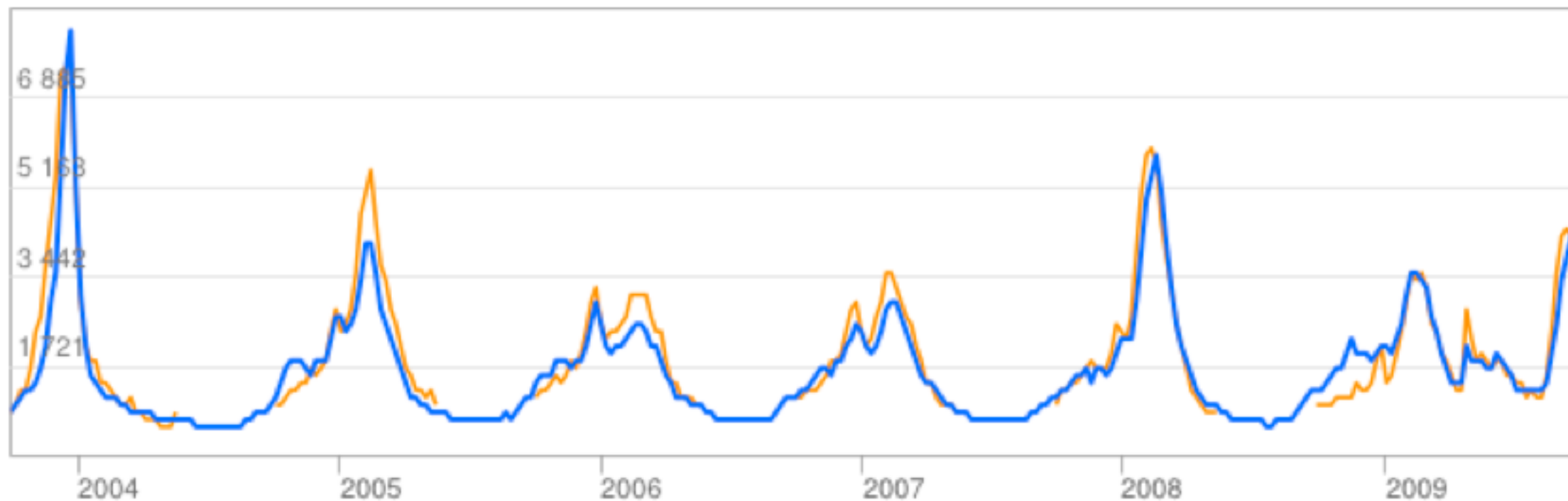
## Estimations historiques

Voir les données pour : États-Unis

## États-Unis - Propagation du virus

Estimation de la grippe

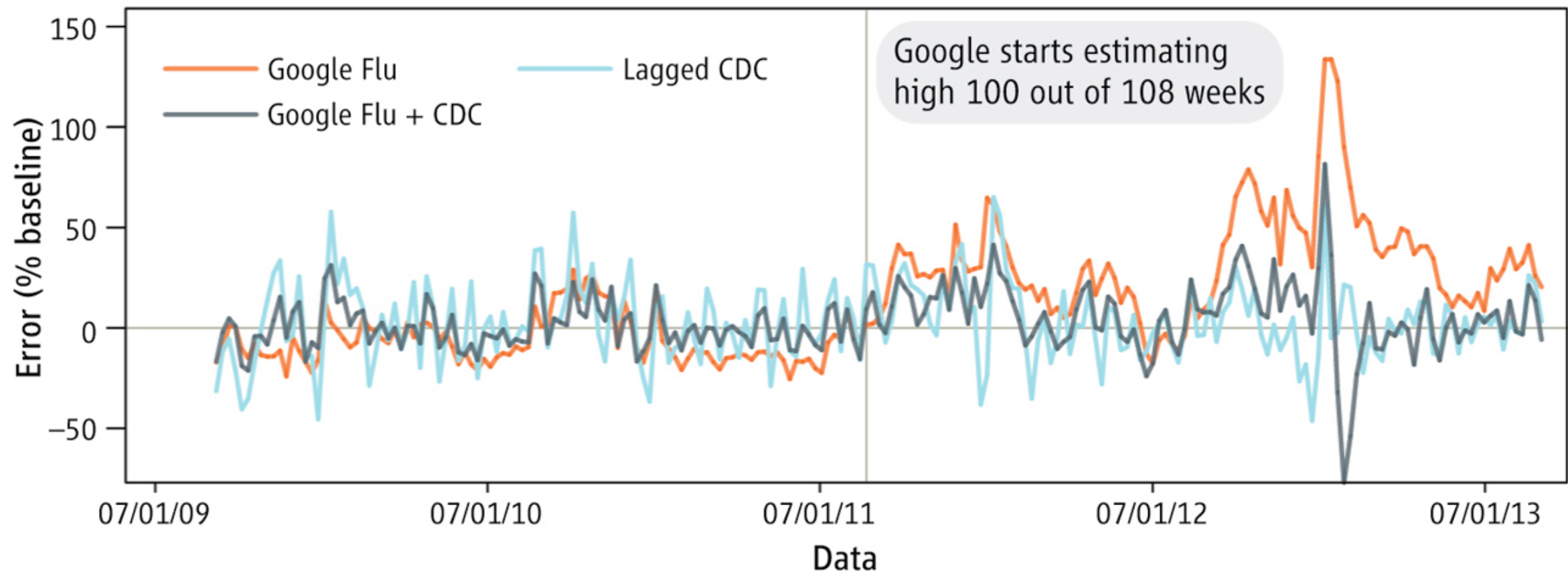
● Estimation Google Suivi de la grippe ● Données pour : États-Unis



États-Unis : Données publiques sur le syndrome grippal (ILI) fournies par les [Centres américains de prévention et de contrôle des maladies](#).

Ginsberg, Jeremy et al. 2008. “**Detecting influenza epidemics using search engine query data.**” *Nature* 457(7232): 1012–1014.

# Rendre lisibles les villes invisibles



« Instead of focusing on a “big data revolution,” perhaps it is time we were focused on an “all data revolution,” where we recognize that the critical change in the world has been innovative analytics, using data from all traditional and new sources, and providing a deeper, clearer understanding of our world ».

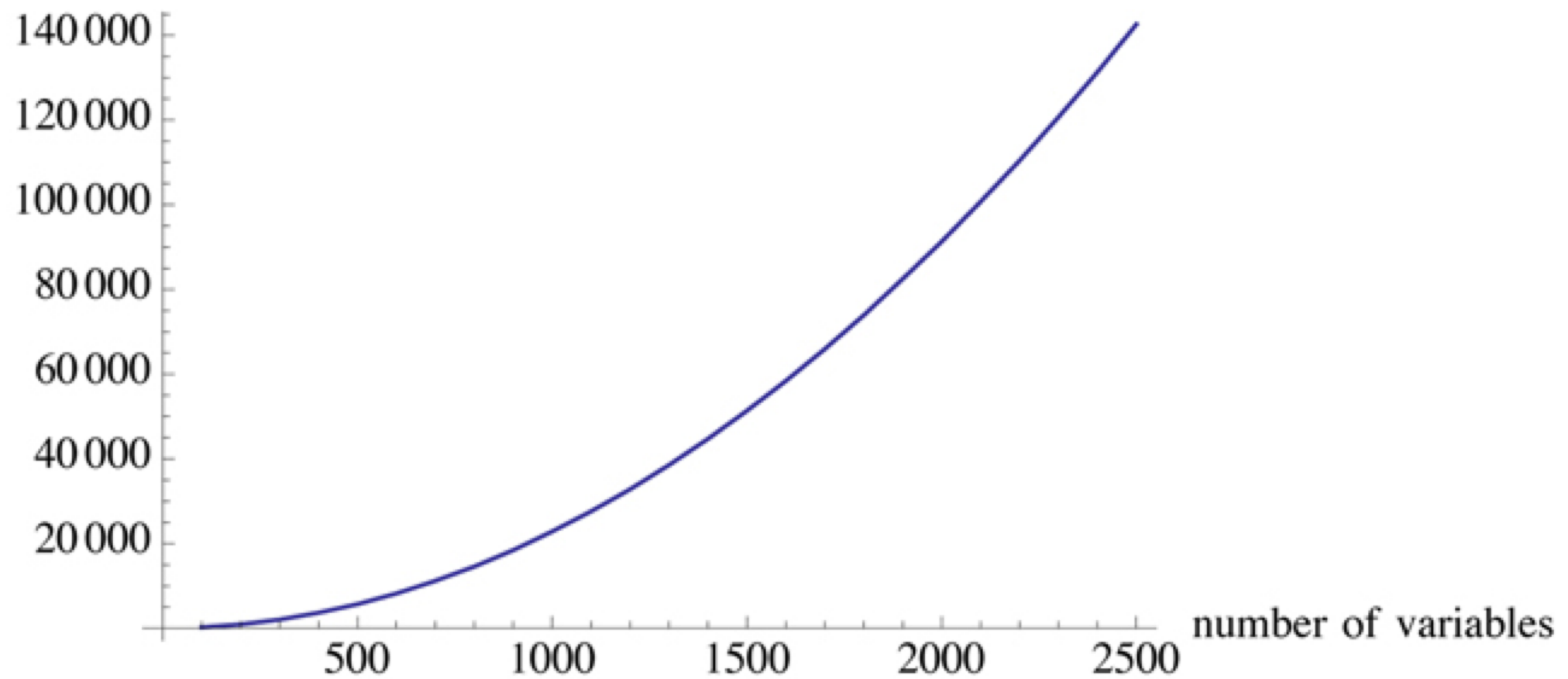
David Lazer, et al. 2014, **The Parable of Google Flu: Traps in Big Data Analysis**, Science 343(6176): 1203-1205.



# Rendre lisibles les villes invisibles

---

Spurious Correlations



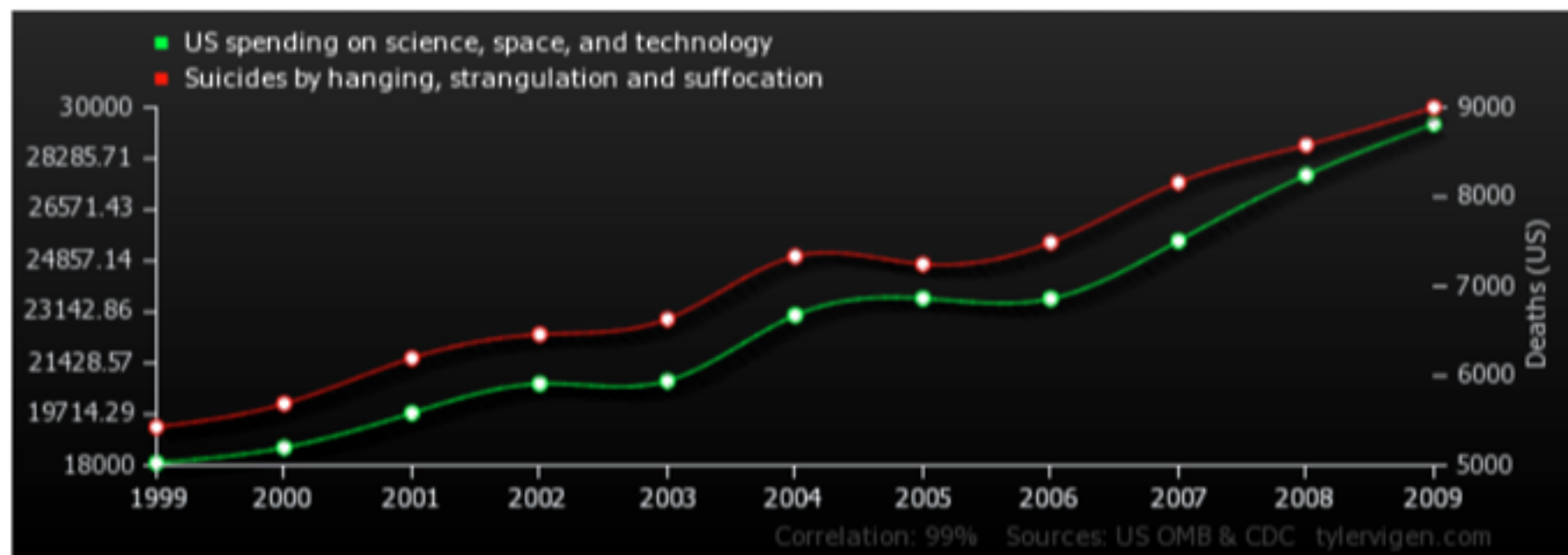
Nassim Taleb, **Antifragile**, 2014

# Rendre lisibles les villes invisibles

## spurious correlations

Discover a new correlation

**US spending on science, space, and technology**  
correlates with  
**Suicides by hanging, strangulation and suffocation**



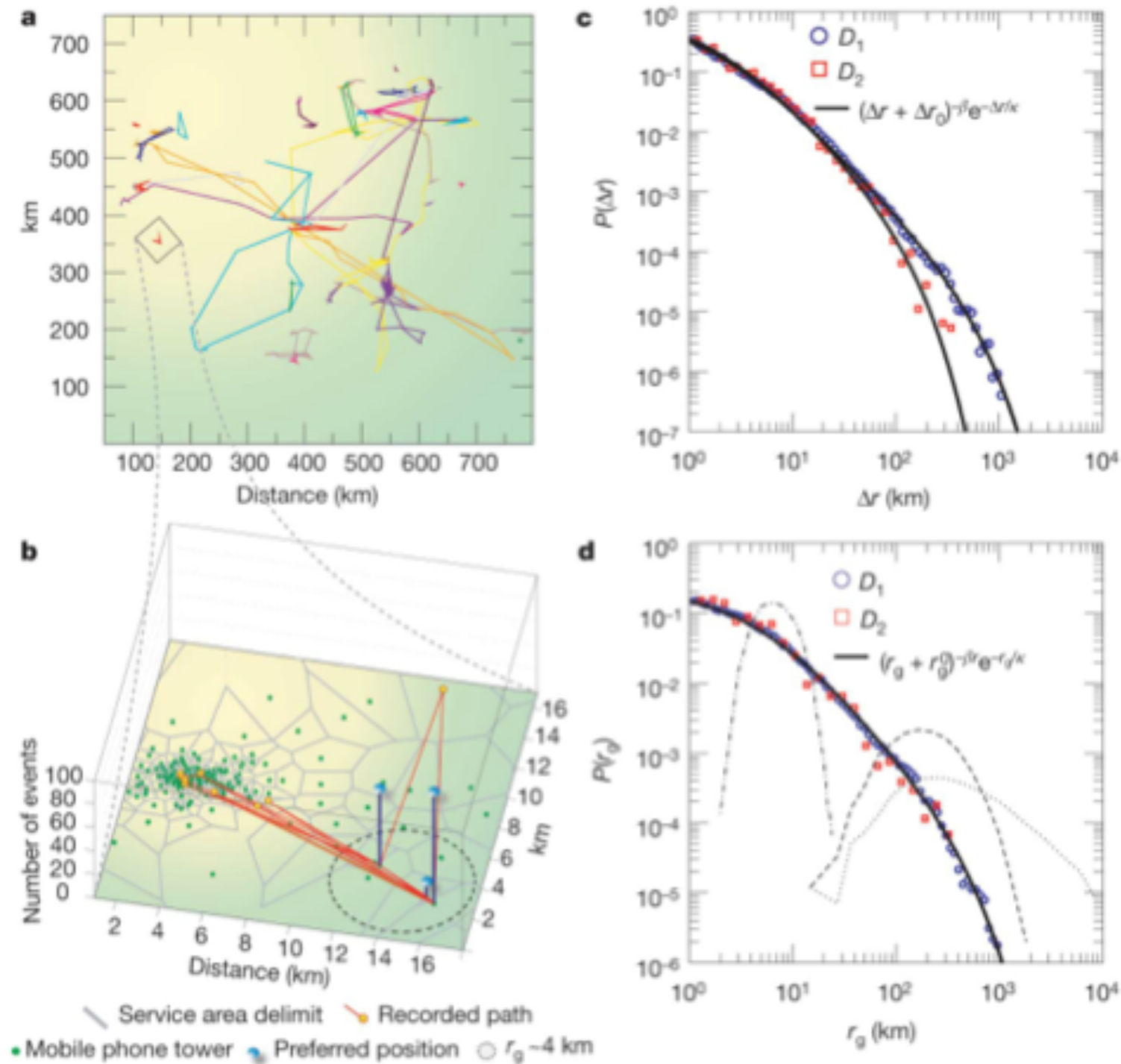
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
US spending on science, space, and technology Millions of todays dollars (US OMB)	18,079	18,594	19,753	20,734	20,831	23,029	23,597	23,584	25,525	27,731	29,449
Suicides by hanging, strangulation and suffocation Deaths (US) (CDC)	5,427	5,688	6,198	6,462	6,635	7,336	7,248	7,491	8,161	8,578	9,000

**Correlation: 0.992082**

Tyler Vigen, **Spurious correlations**, 2014



# Rendre lisibles les villes invisibles



González, Marta C, César A Hidalgo, and Albert-László Barabási. 2008. “**Understanding individual human mobility patterns.**” Nature 453(7196): 779–782.

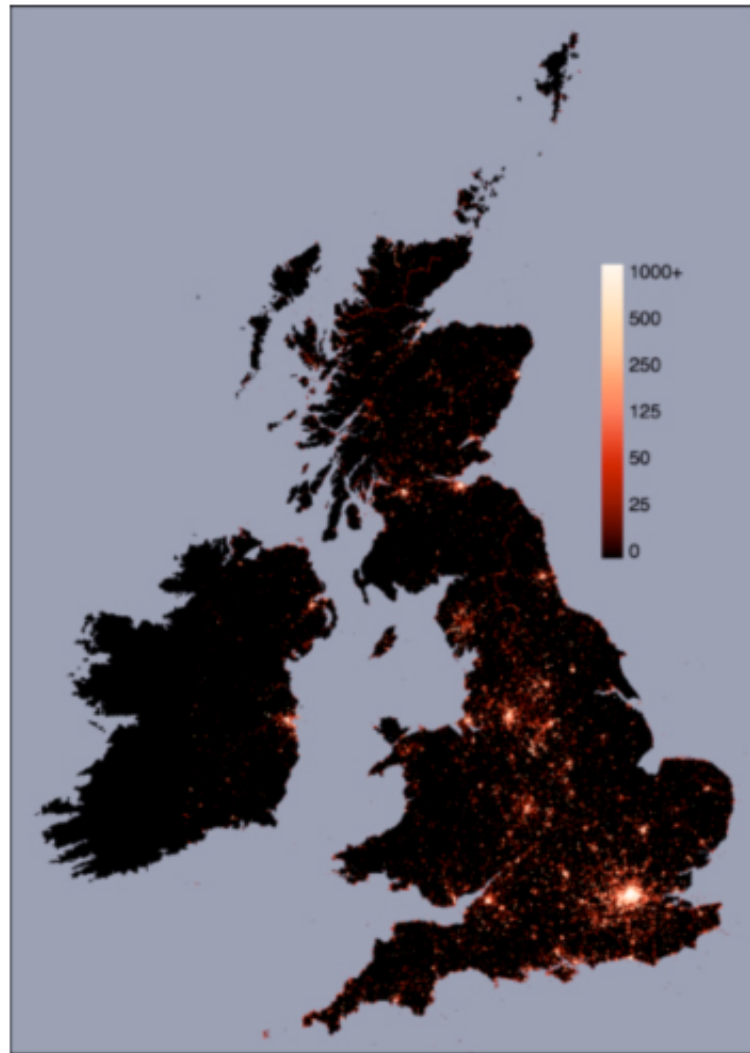
# Rendre lisibles les villes invisibles

---

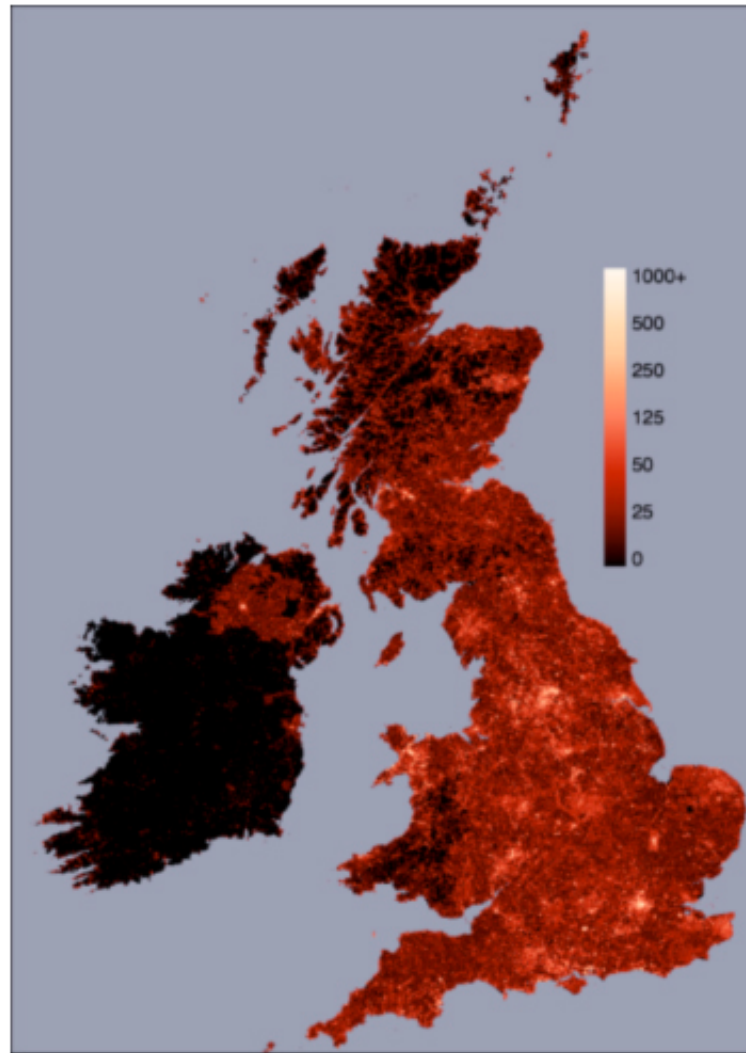




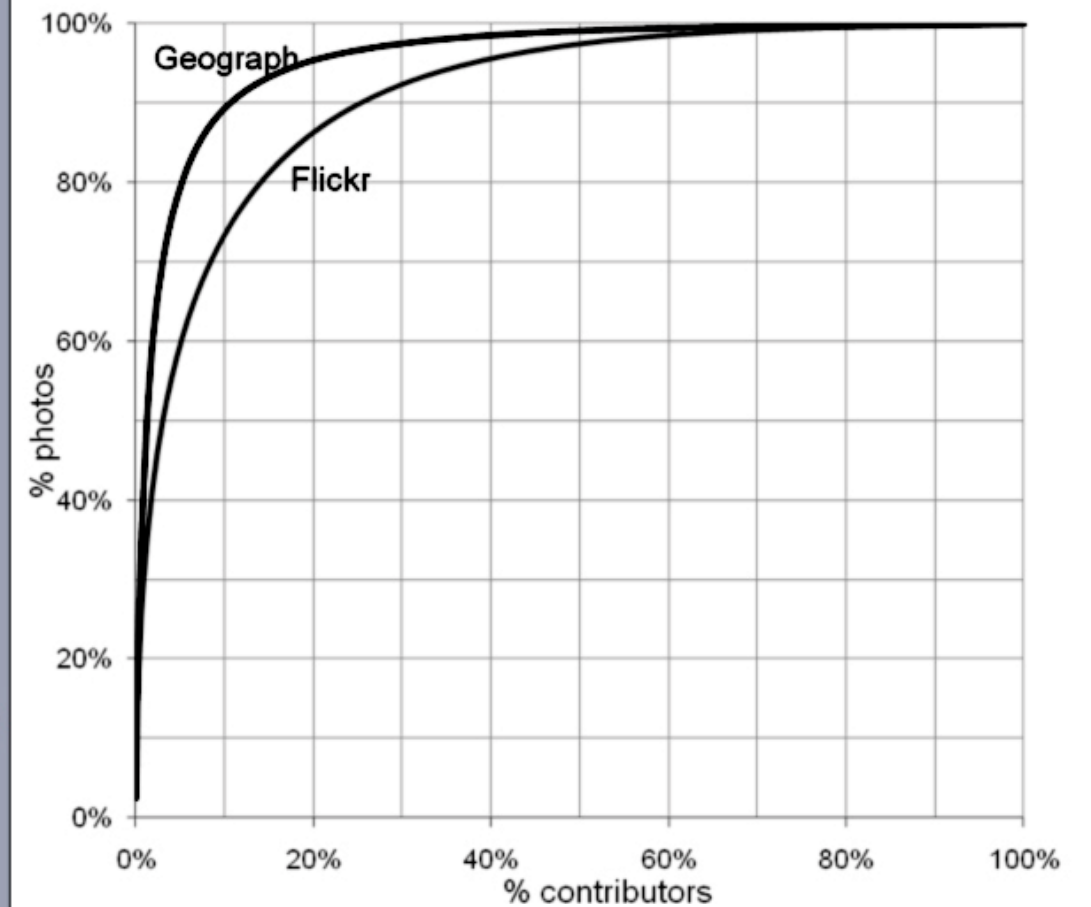
# Rendre lisibles les villes invisibles



Flickr



Geograph



Purves et Edwardes, **Inégale représentativité spatiale à gauche et sociale à droite**, 2011

# Rendre lisibles les villes invisibles



Open Street Map et Cloud Made, Lausanne - EPFL, 2008

Boris Beaudé - Chôros - École Polytechnique Fédérale de Lausanne - 2014



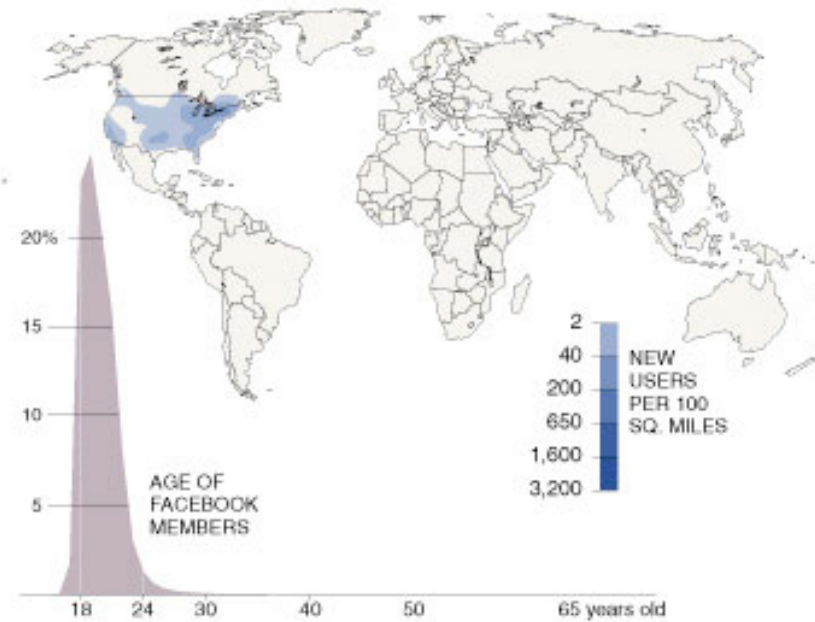
# Rendre lisibles les villes invisibles

## The Road to 200 Million

Facebook began as a private network for colleges and universities, but has grown into an international social networking site with almost 200 million members. Lee Byron, a member of Facebook's data team, created maps and network diagrams that show the site's expansion and use.

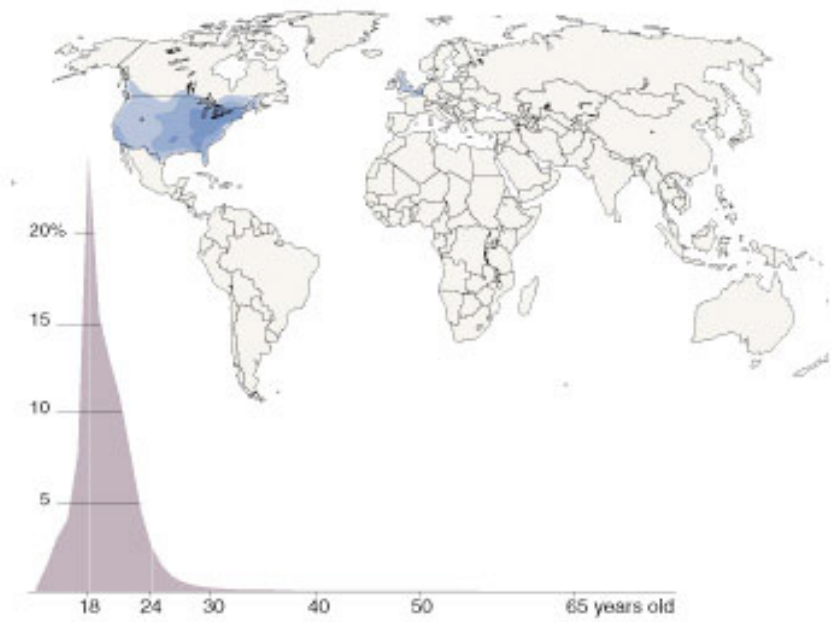
February 2004 to January 2005

Facebook begins at Harvard, and expands to a few universities at a time.



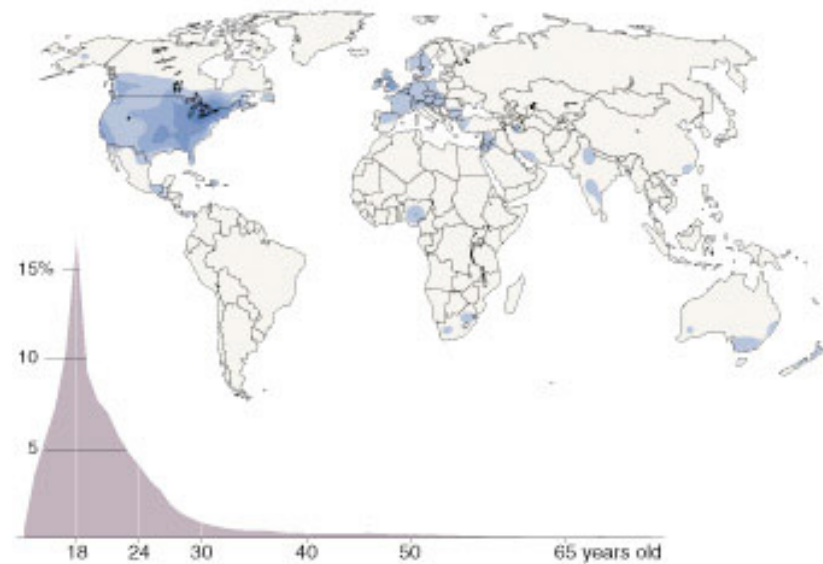
February 2005 to January 2006

Facebook expands to include most American colleges and high schools.



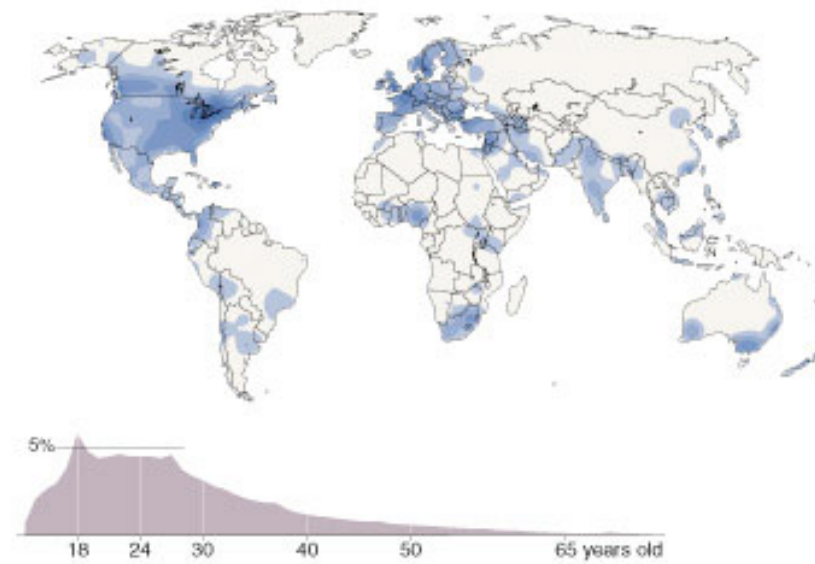
February 2006 to January 2007

Facebook opens registration to allow anyone to join, which brings in older members.



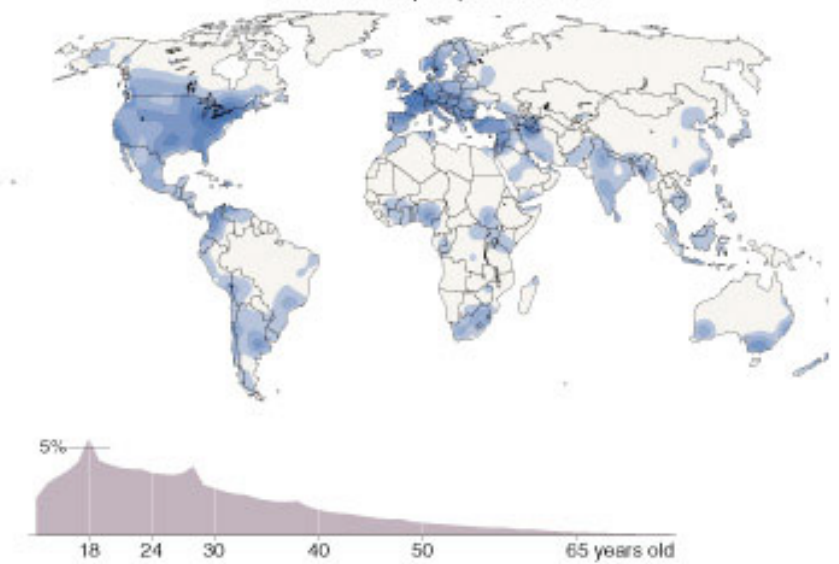
February 2007 to January 2008

Facebook reaches 50 million users, with Canada and Britain growing fastest.



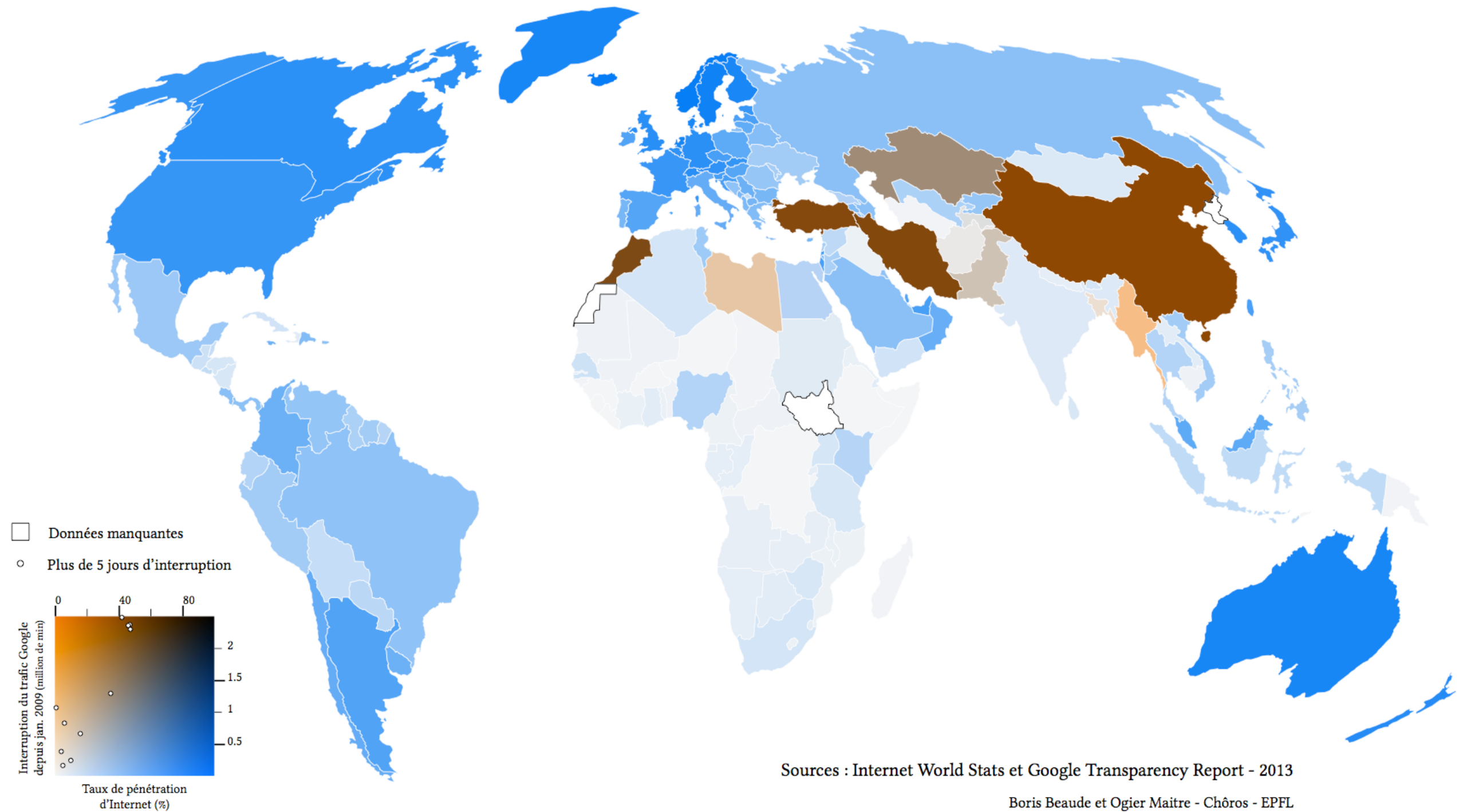
February 2008 to January 2009

Facebook is translated into more than 40 languages. The fastest-growing group of members is people over 35.



Lee Byron, **Facebook Growing to 200 Million**, 2008

# Rendre lisibles les villes invisibles



Boris Beaudé et Ogier Maitre - **L'ubiquité fracturée** - 2014



# Rendre lisibles les villes invisibles

---

## « Critical questions for Big Data »

*dana boyd & Kate Crawford, Information, Communication & Society, June 2012, pp. 662–679.*

*« Technology is neither good nor bad; nor is it neutral »*

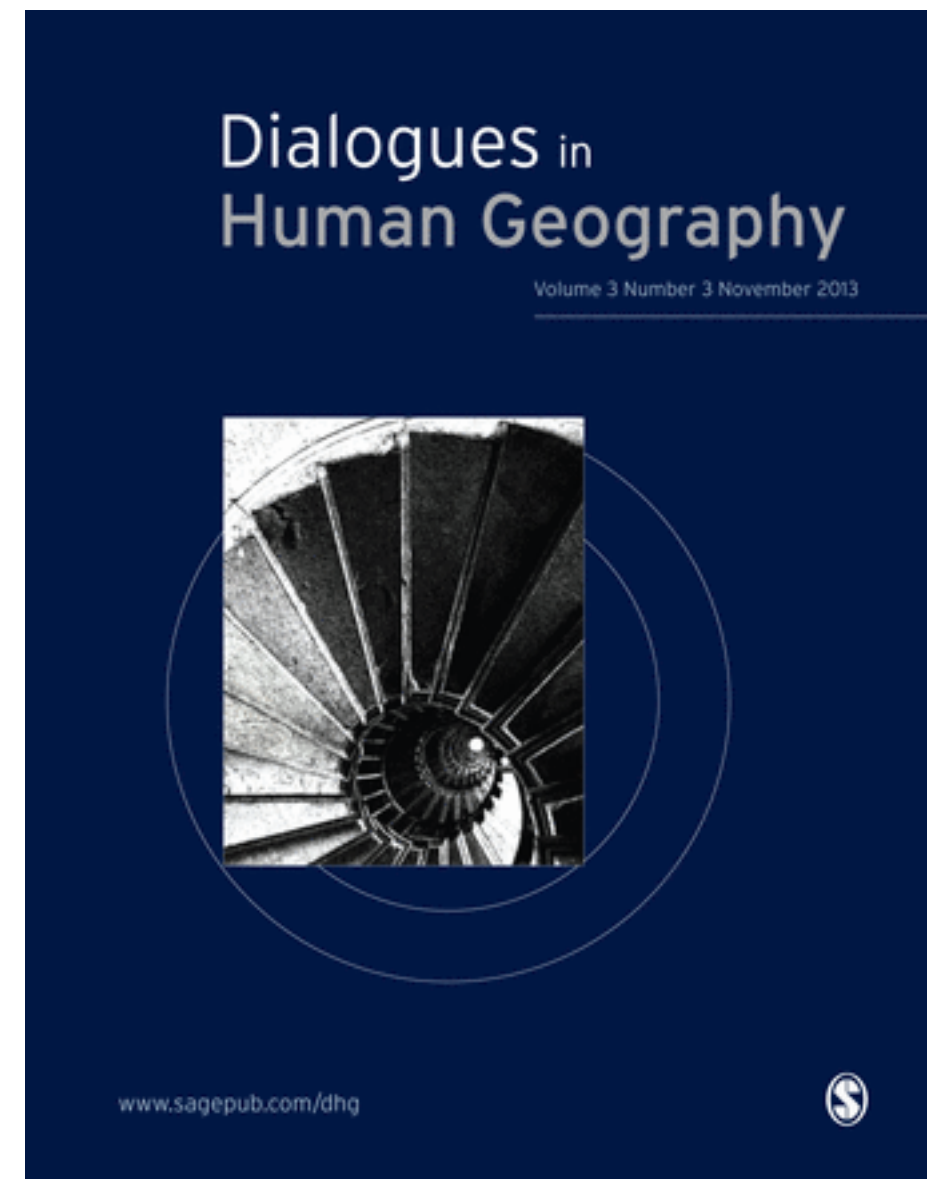
- 1. Big Data changes the definition of knowledge*
- 2. Claims to objectivity and accuracy are misleading*
- 3. Bigger data are not always better data*
- 4. Taken out of context, Big Data loses its meaning*
- 5. Just because it is accessible does not make it ethical*
- 6. Limited access to Big Data creates new digital divides*

# Rendre lisibles les villes invisibles

---

« Geography and the future of big data, big data and the future of geography »

*Mark Graham and Taylor Shelton, Dialogues in Human Geography November 2013.*

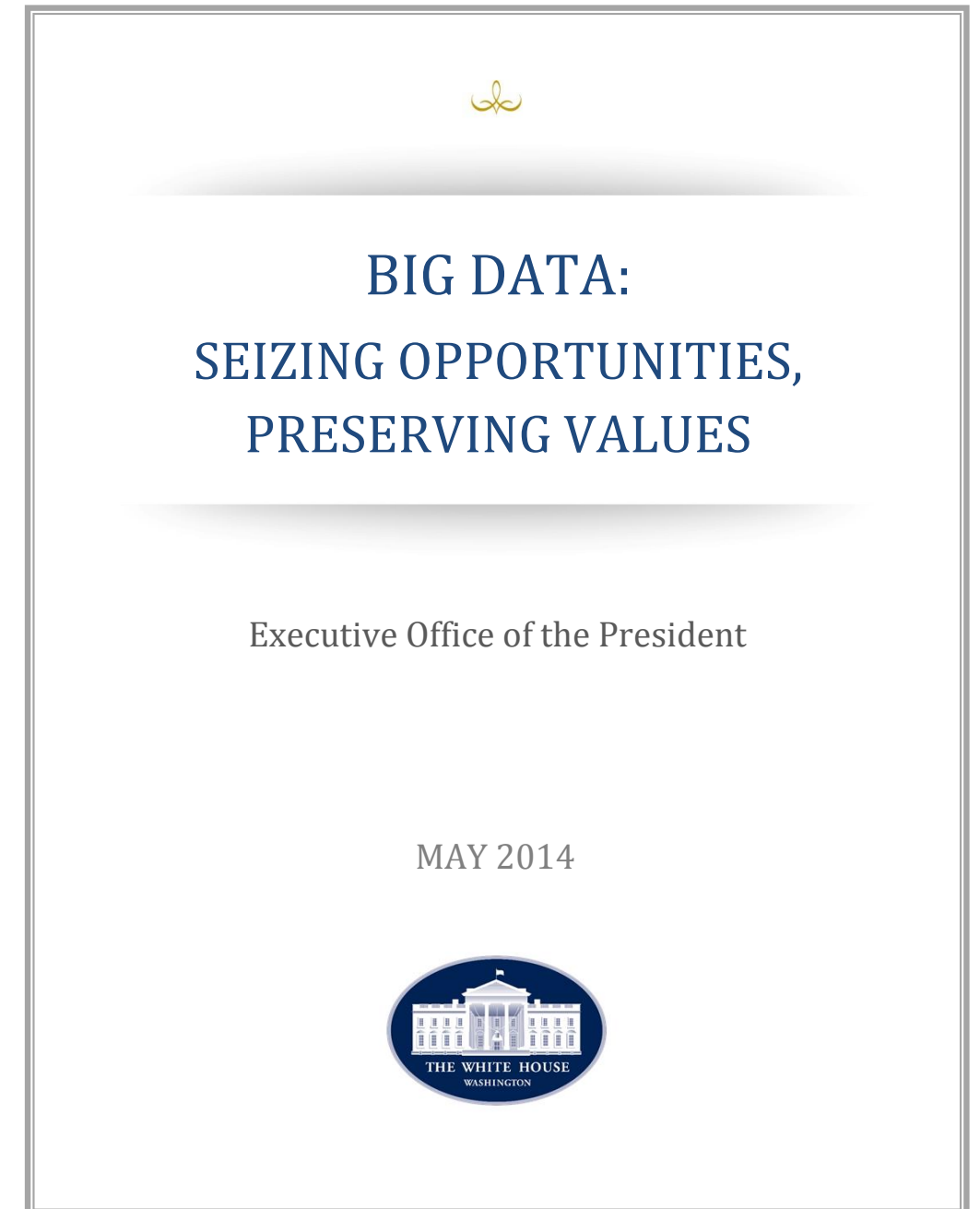


# Rendre lisibles les villes invisibles

---

« Big Data : Seizing opportunities, preserving values »

*Executive Office of the President, May 2014.*



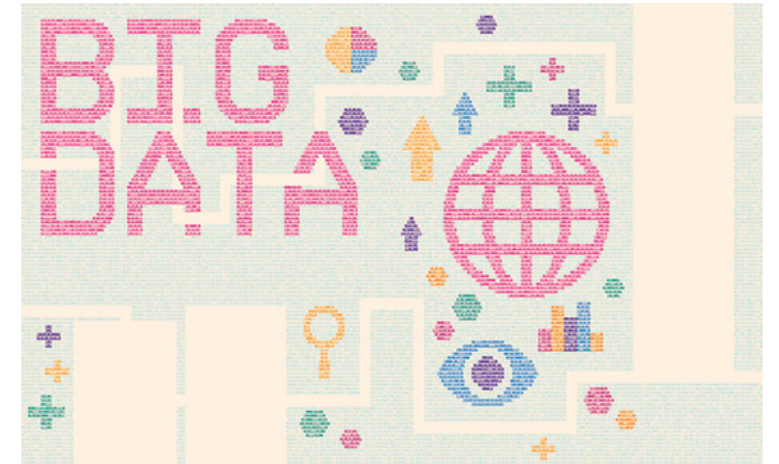


# Rendre lisibles les villes invisibles

---

« Big data: are we making a big mistake? »

*Tim Harford, Financial Times Magazine, March 28, 2014.*



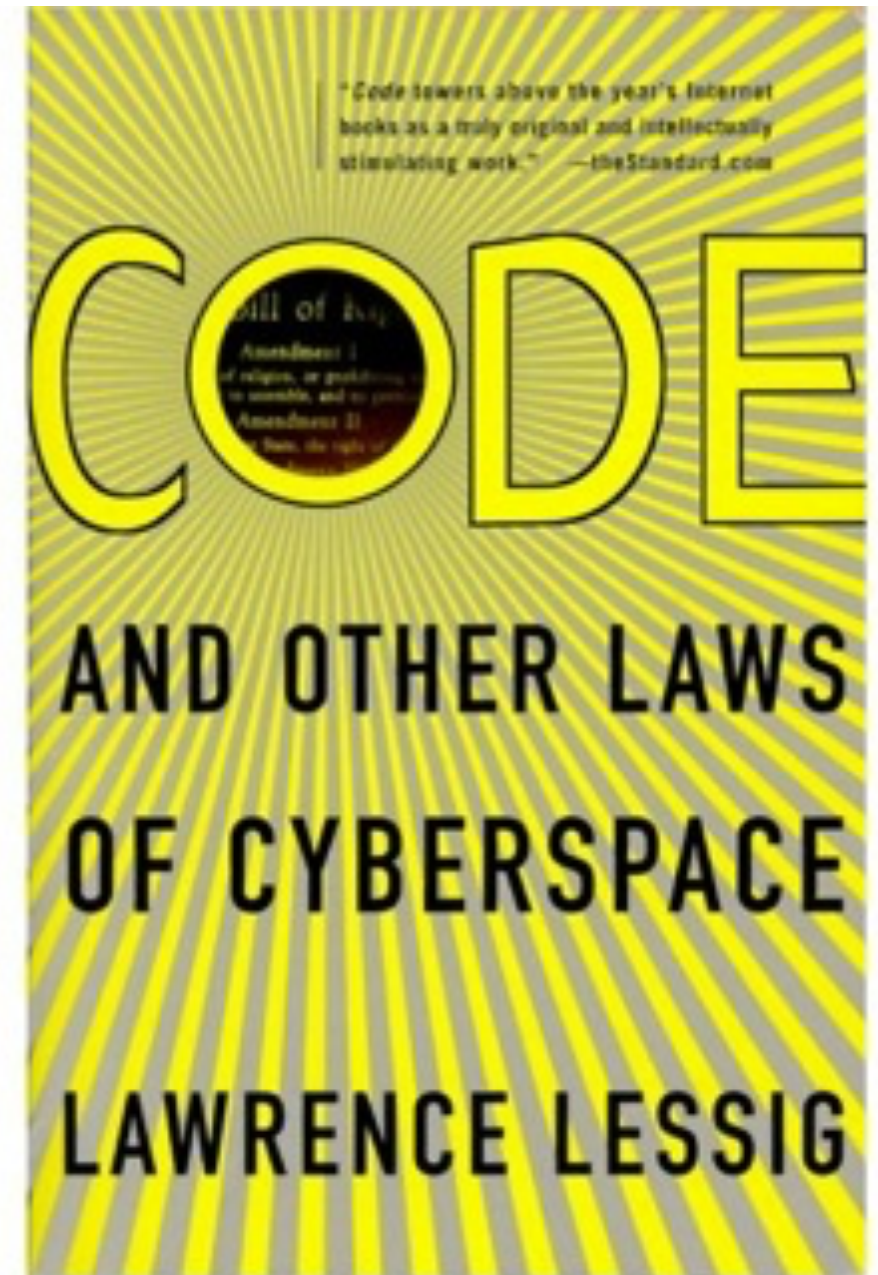
- N=all doesn't exist
- Sampling error & Sampling bias
- Correlations are not causation
- We are not studying a stable environment

# Rendre lisibles les villes invisibles

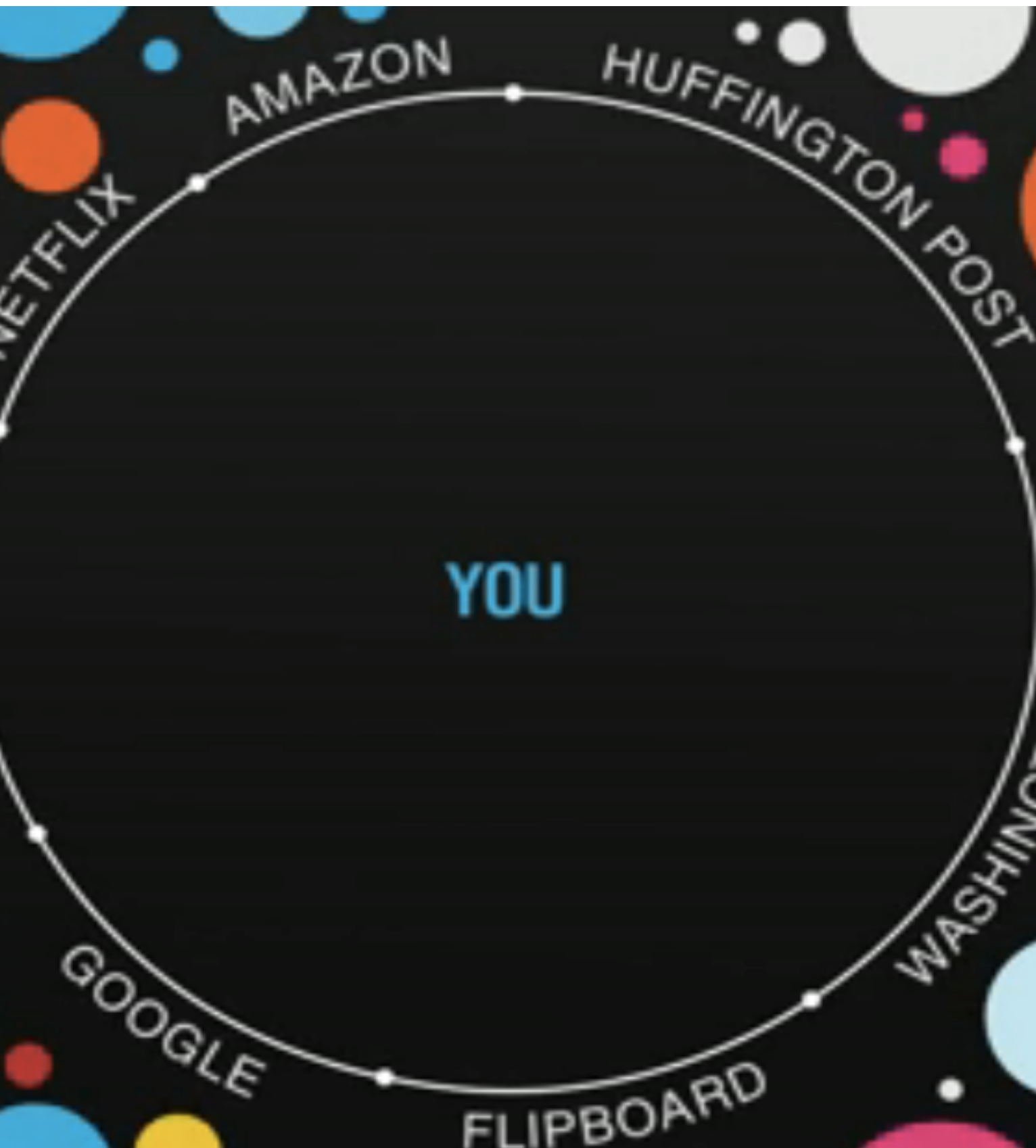
---

« Code and other laws of cyberspace »

*Lawrence Lessig, 1999.*



# Rendre lisibles les villes invisibles



## The Filter Bubble

What [redacted] the [redacted]  
[redacted]  
[redacted] Internet [redacted]  
[redacted]  
[redacted] Is [redacted]  
[redacted]  
[redacted] Hiding [redacted]  
[redacted]  
[redacted] From [redacted]  
[redacted]  
[redacted] You [redacted]

**Eli Pariser**



# Rendre lisibles les villes invisibles



Michel Foucault, 1975



Jean-Gabriel Ganscia, 2009

# Rendre lisibles les villes invisibles

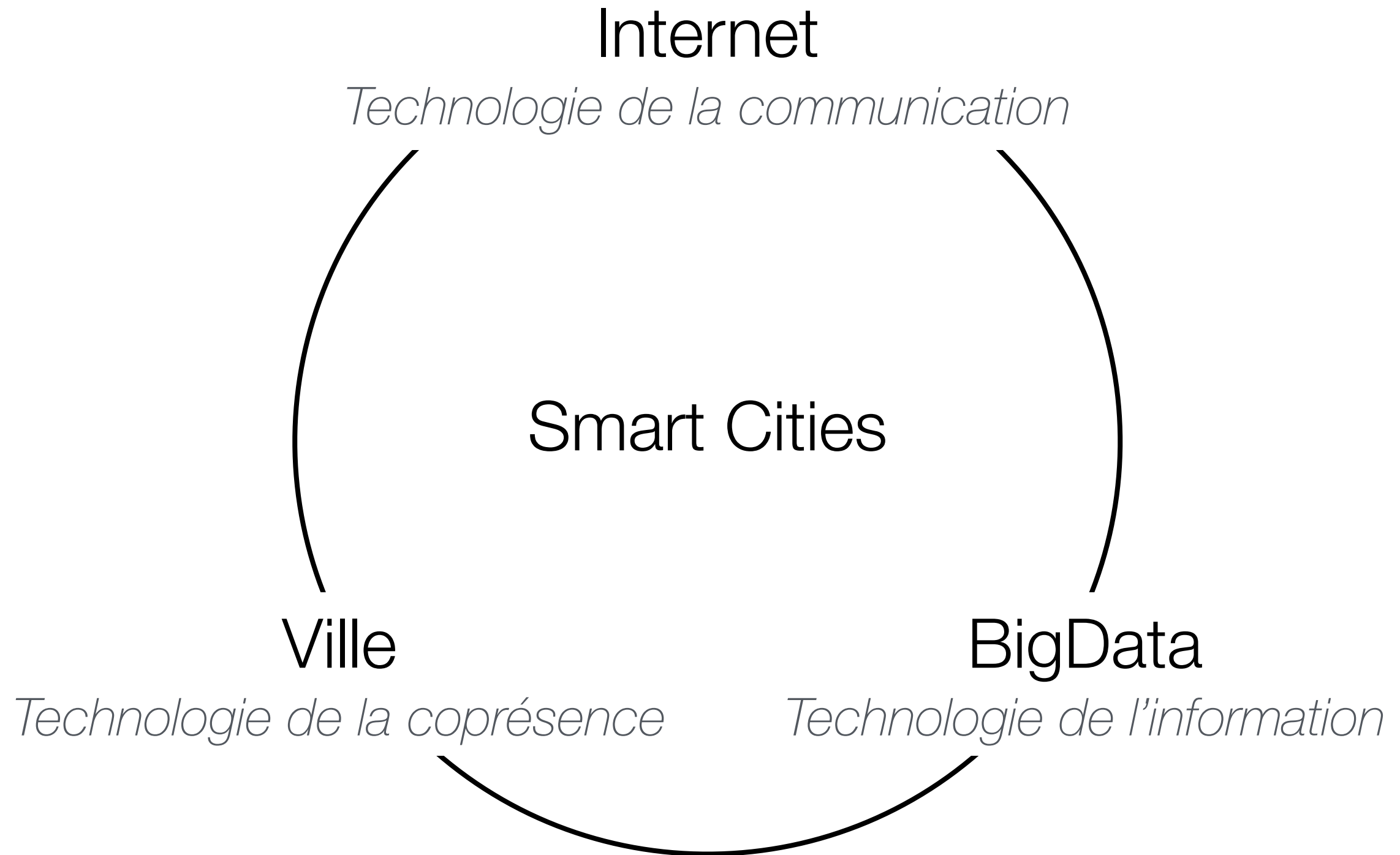
---

« Les cibles de pouvoir ont glissé sur les prises de l'advenir...  
C'est notre dimension de potentialité qui est visée et non notre dimension d'actualité ! »

Antoinette Rouvroy, « la politique des données personnelles », Lyon, 2013

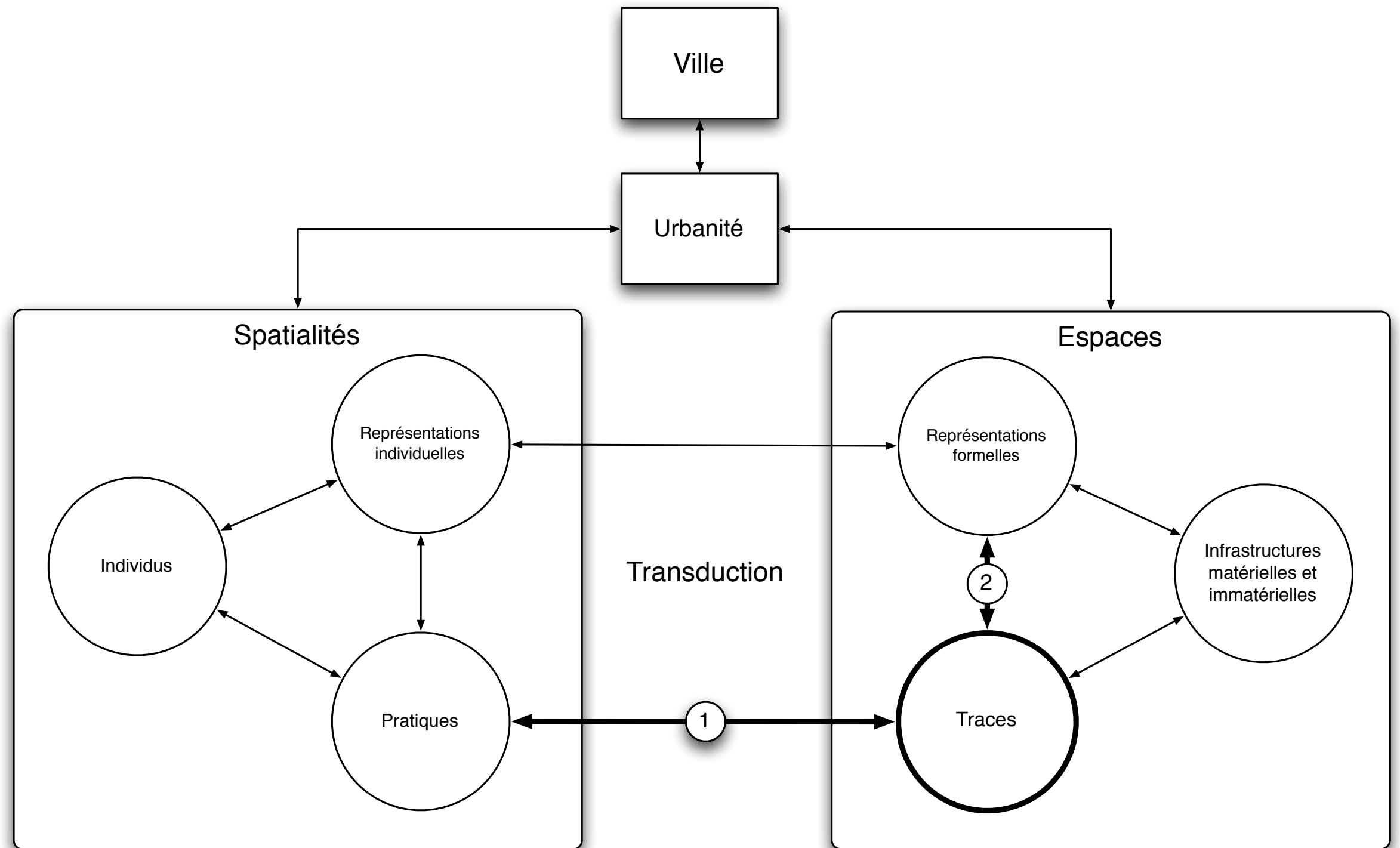
# Rendre lisibles les villes invisibles

---





# Rendre lisibles les villes invisibles



*Explicities*, Boris Beaude et Nicolas Nova, EPFL-HEAD, 2011

# Rendre lisibles les villes invisibles

---

## Digital Footprints



# Digital Footprints

---

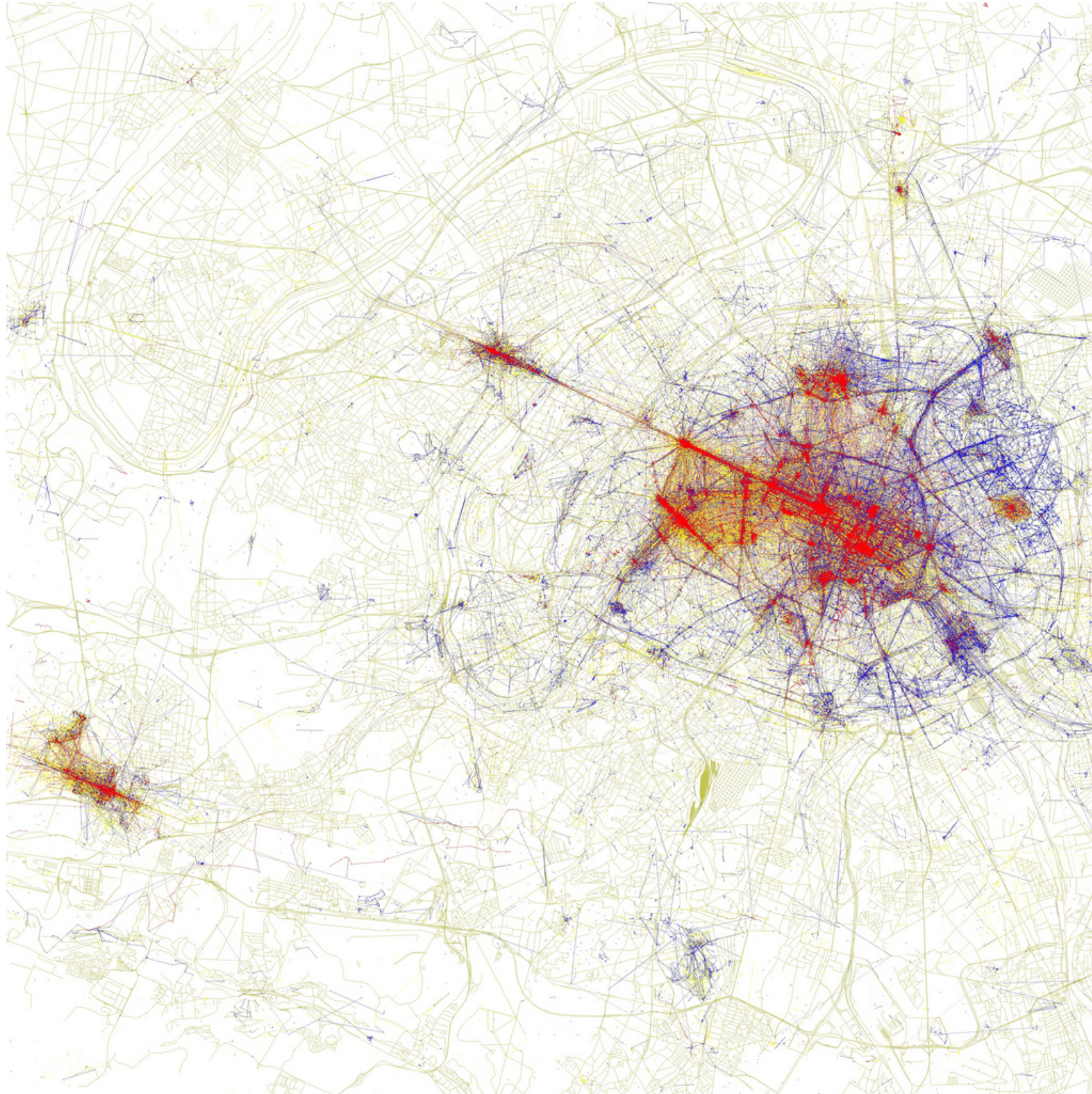


Fabien Girardin / 2006 / Barcelone / **Tourist Density**



# Digital Footprints

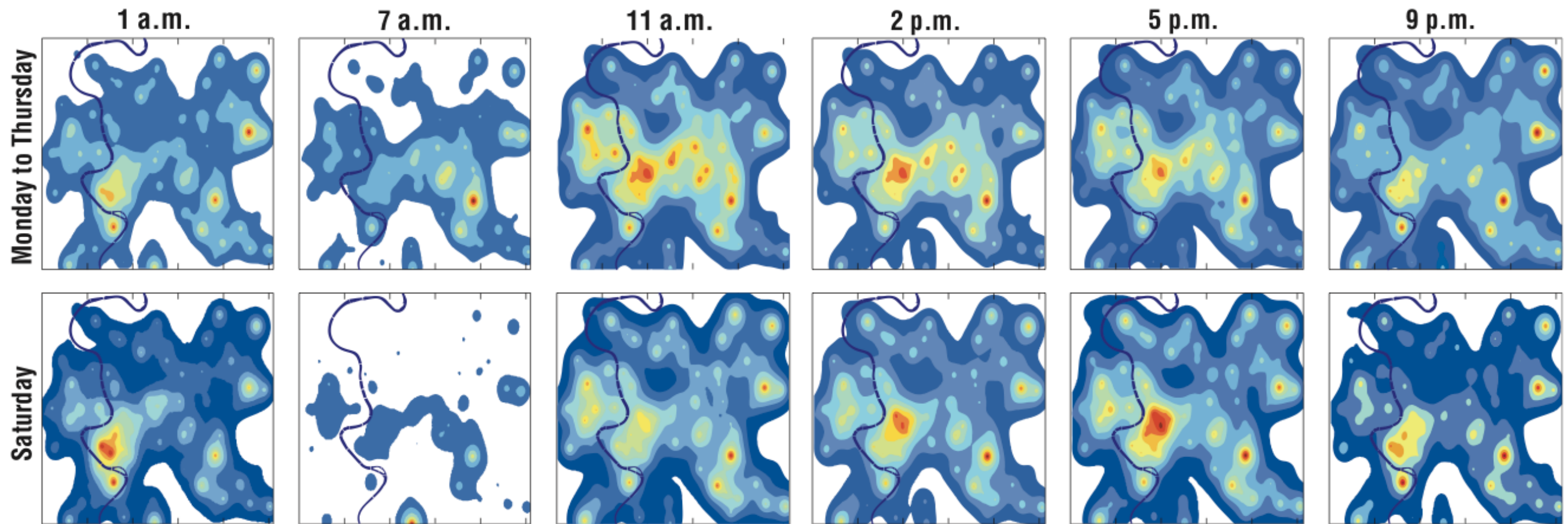
---



Eric Fischer / 2010 / Paris / **Locals and Tourists**

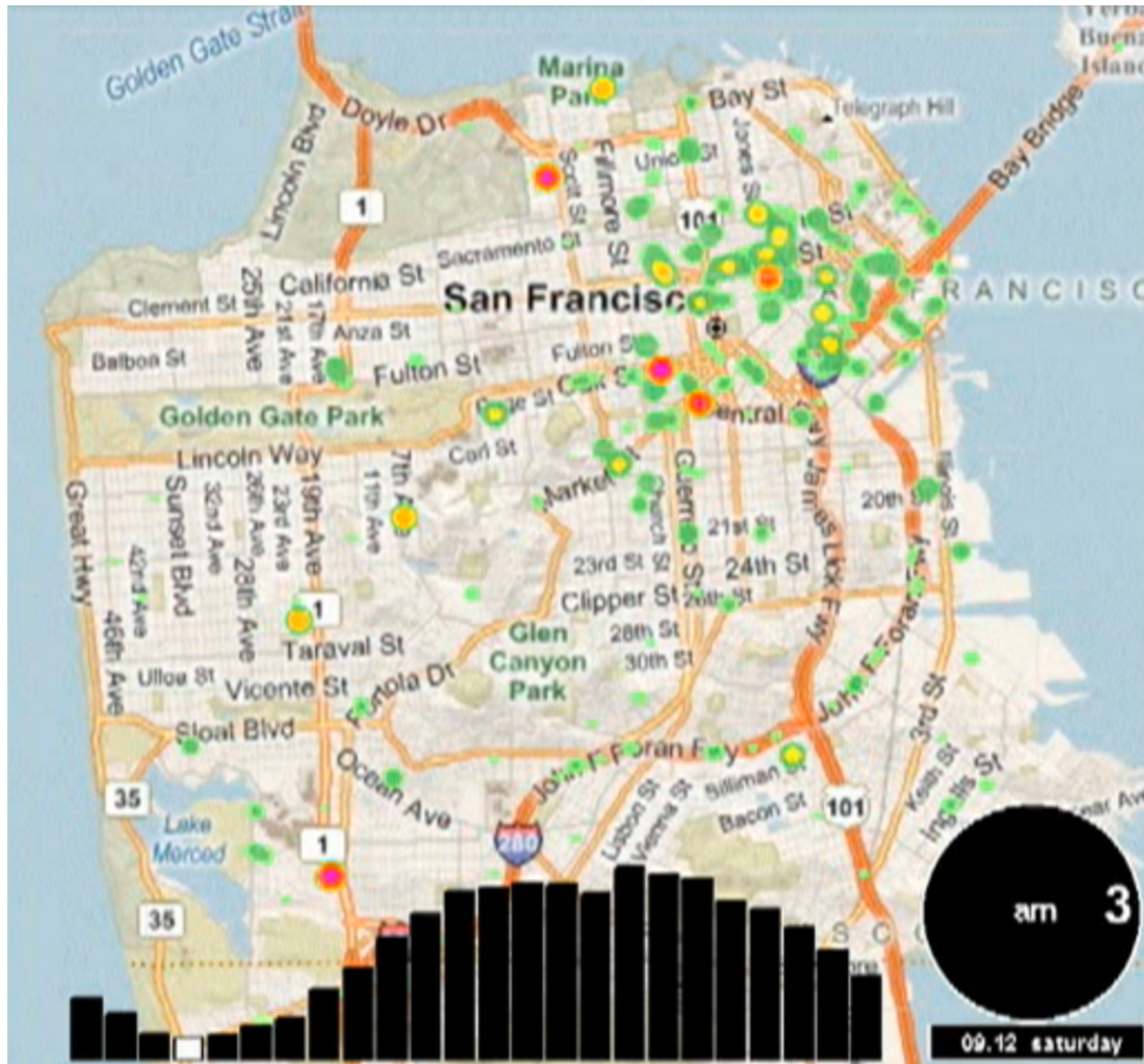


# Digital Footprints



Reades, J et al. 2007. “**Cellular Census: Explorations in Urban Data Collection.**” IEEE Pervasive Computing 6(3): 30–38.

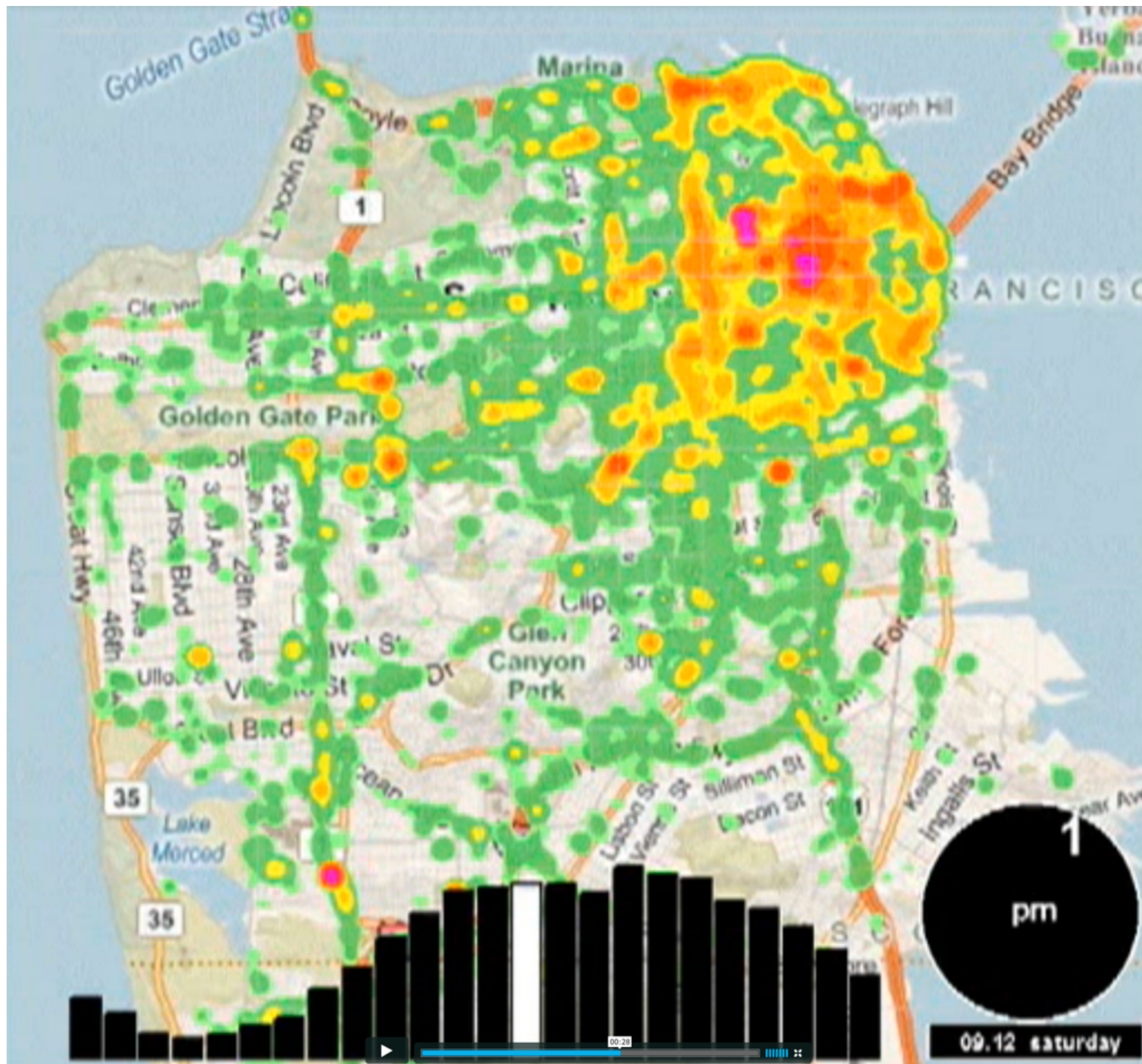
# Digital Footprints



Skyhook / 2011 / San Francisco / **SpotRank**



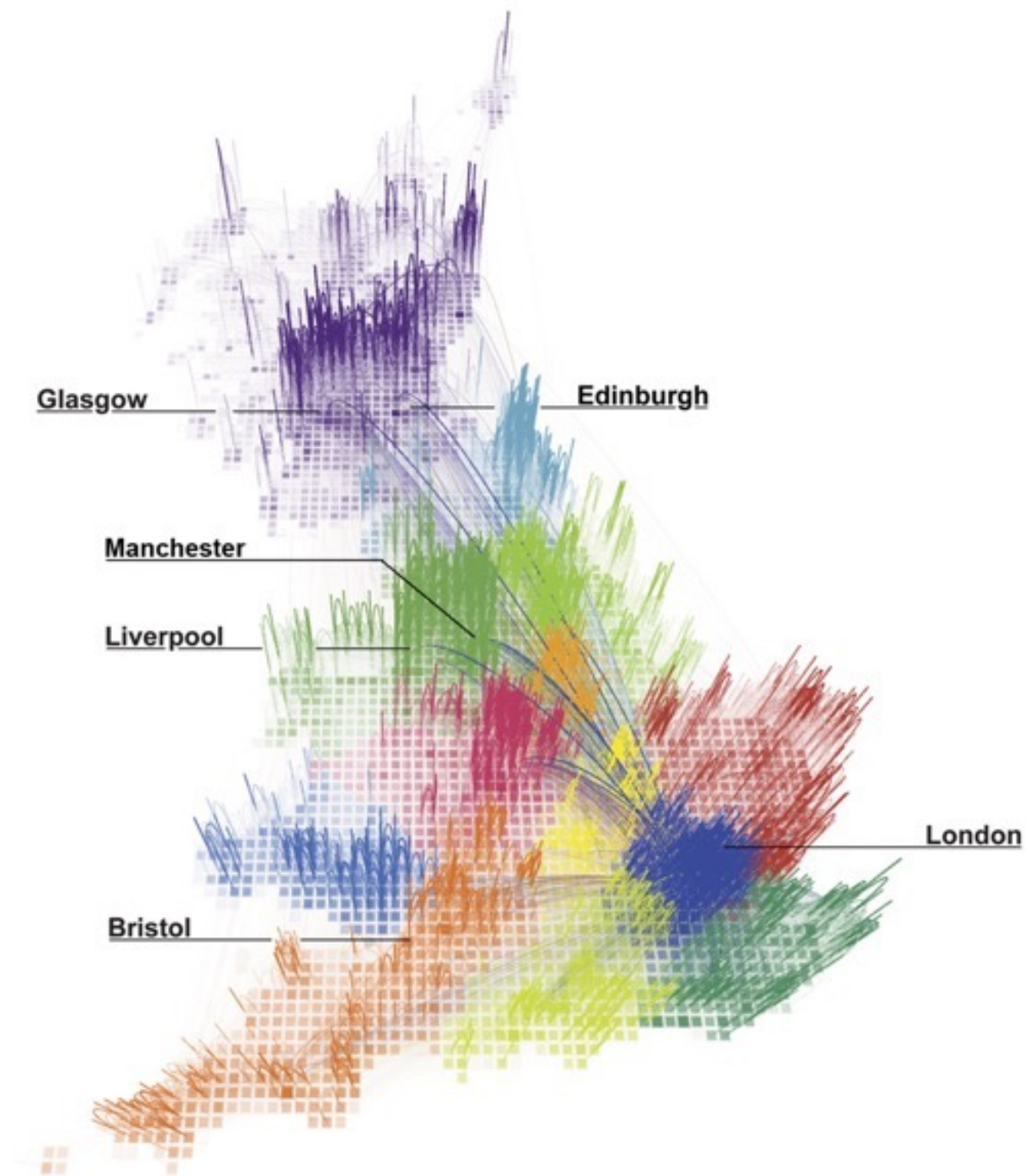
# Digital Footprints



Skyhook / 2011 / San Francisco / **SpotRank**

# Digital Footprints

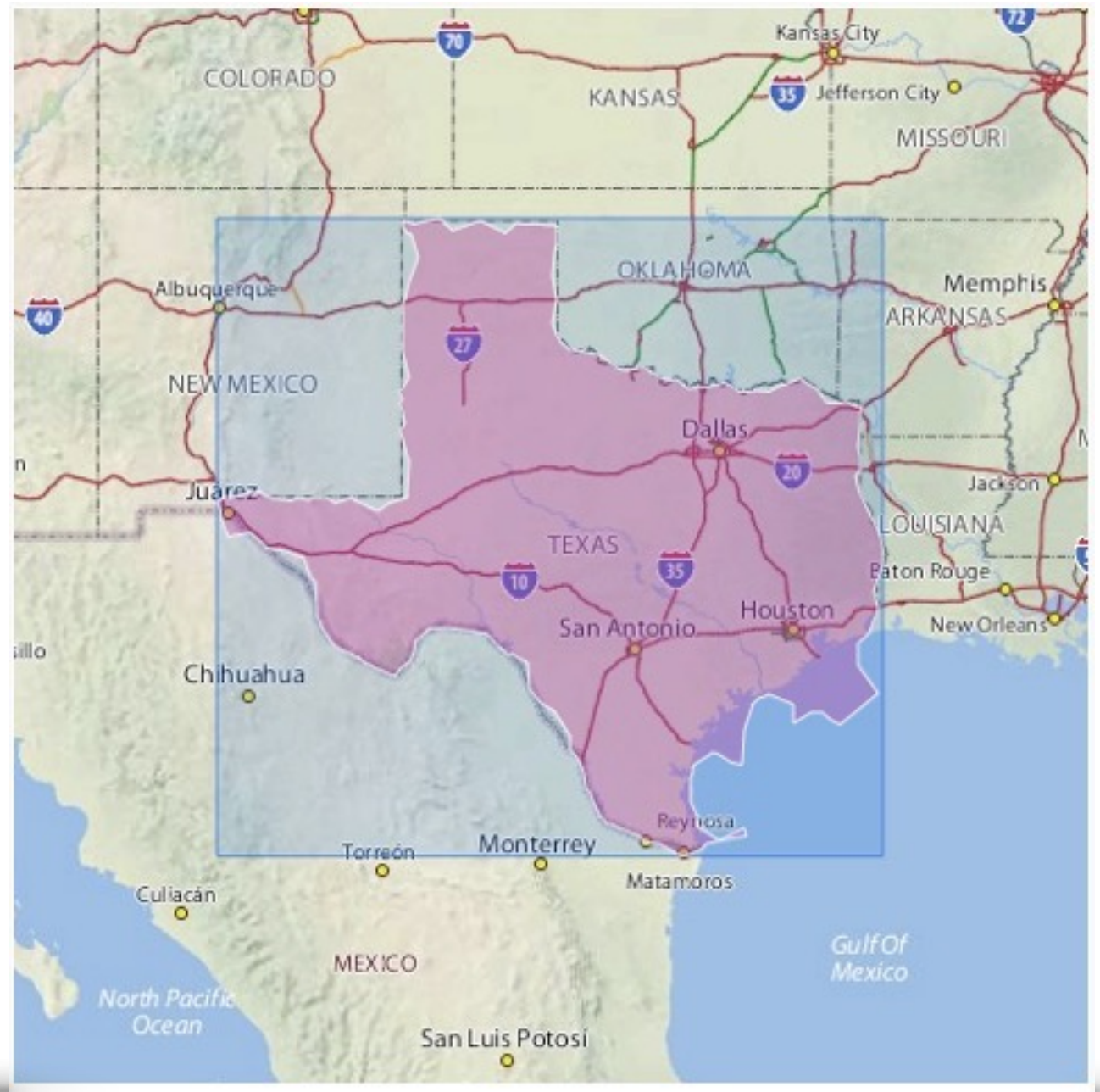
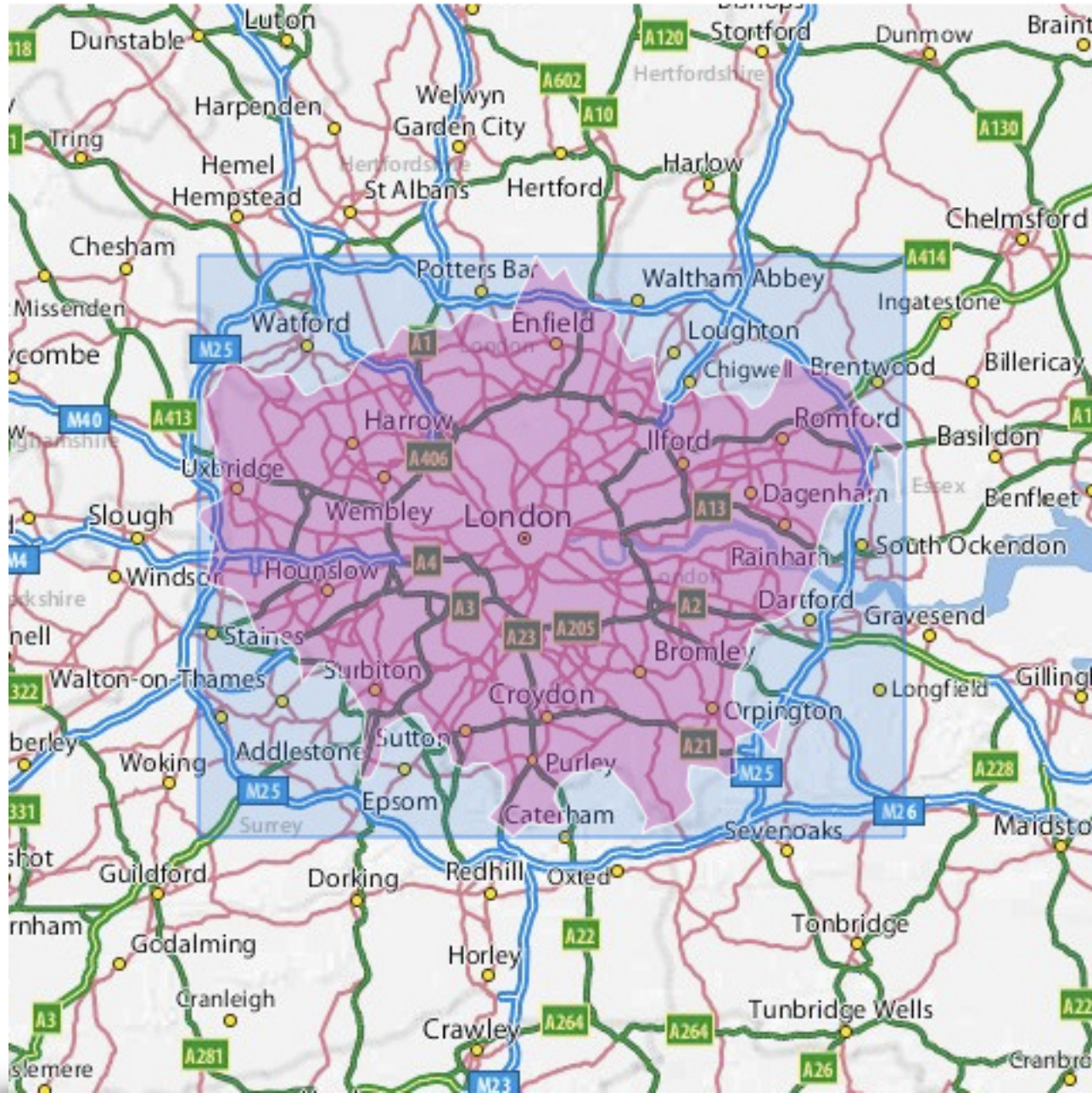
---



Senseable City Lab, MIT, Redrawing the map of Great Britain from a network of human interactions, 2010



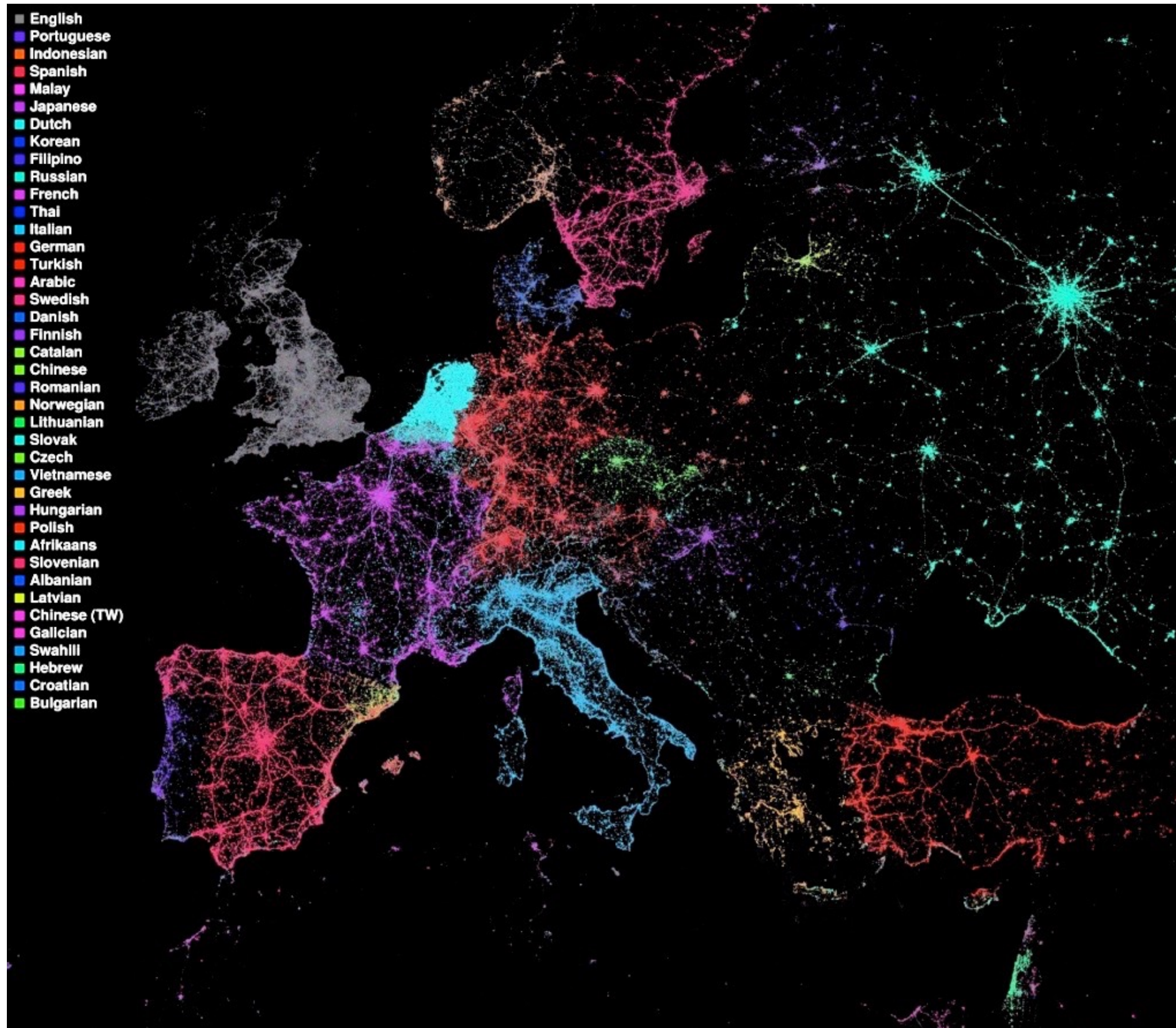
# Digital Footprints



Aaron Straup Cope, **The Shape of Alpha**, Flickr, 2008



# Digital Footprints



Eric Fischer, **Language communities of Twitter**, 2011



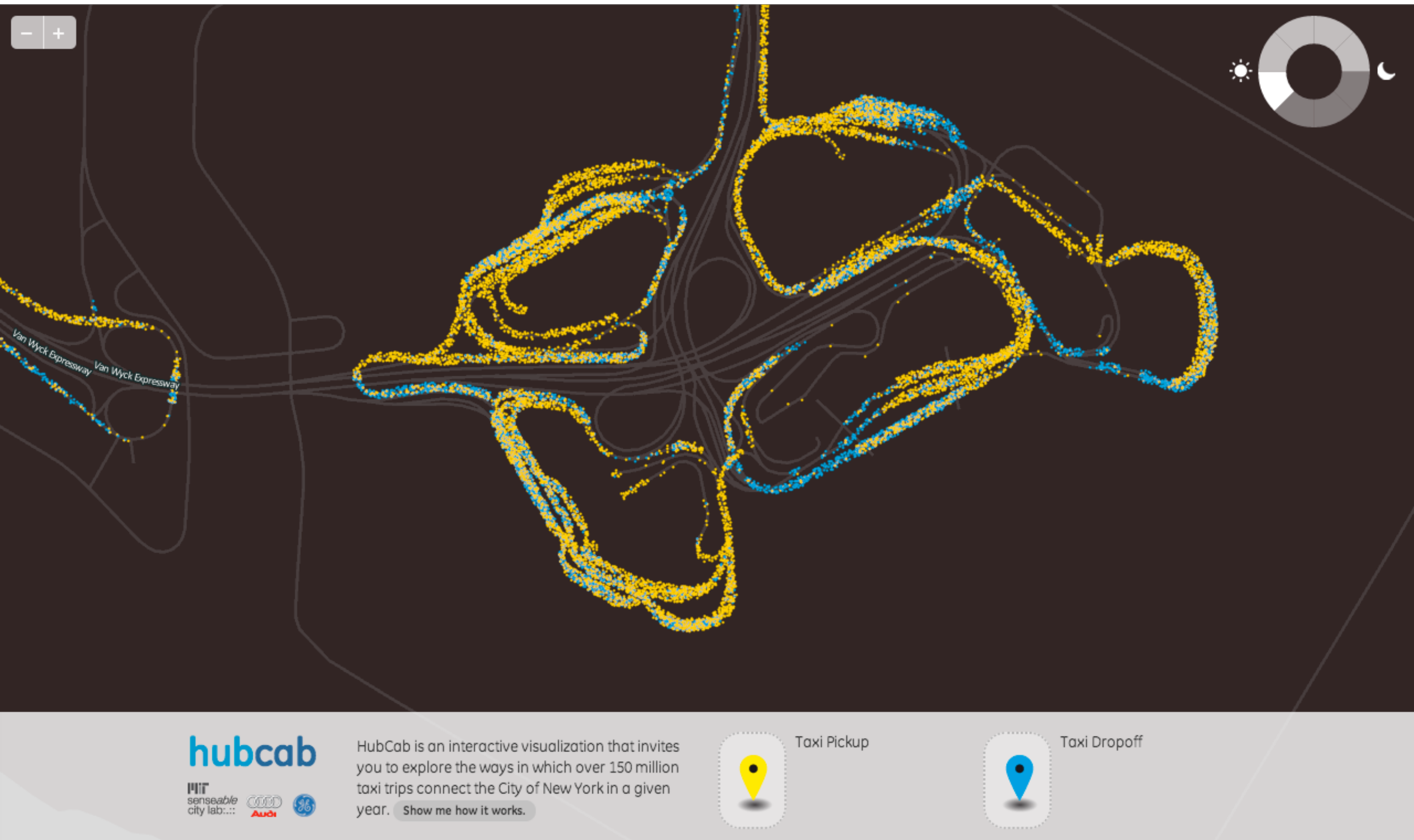
# Digital Footprints



*Hubcab, senseable city lab, 2014*



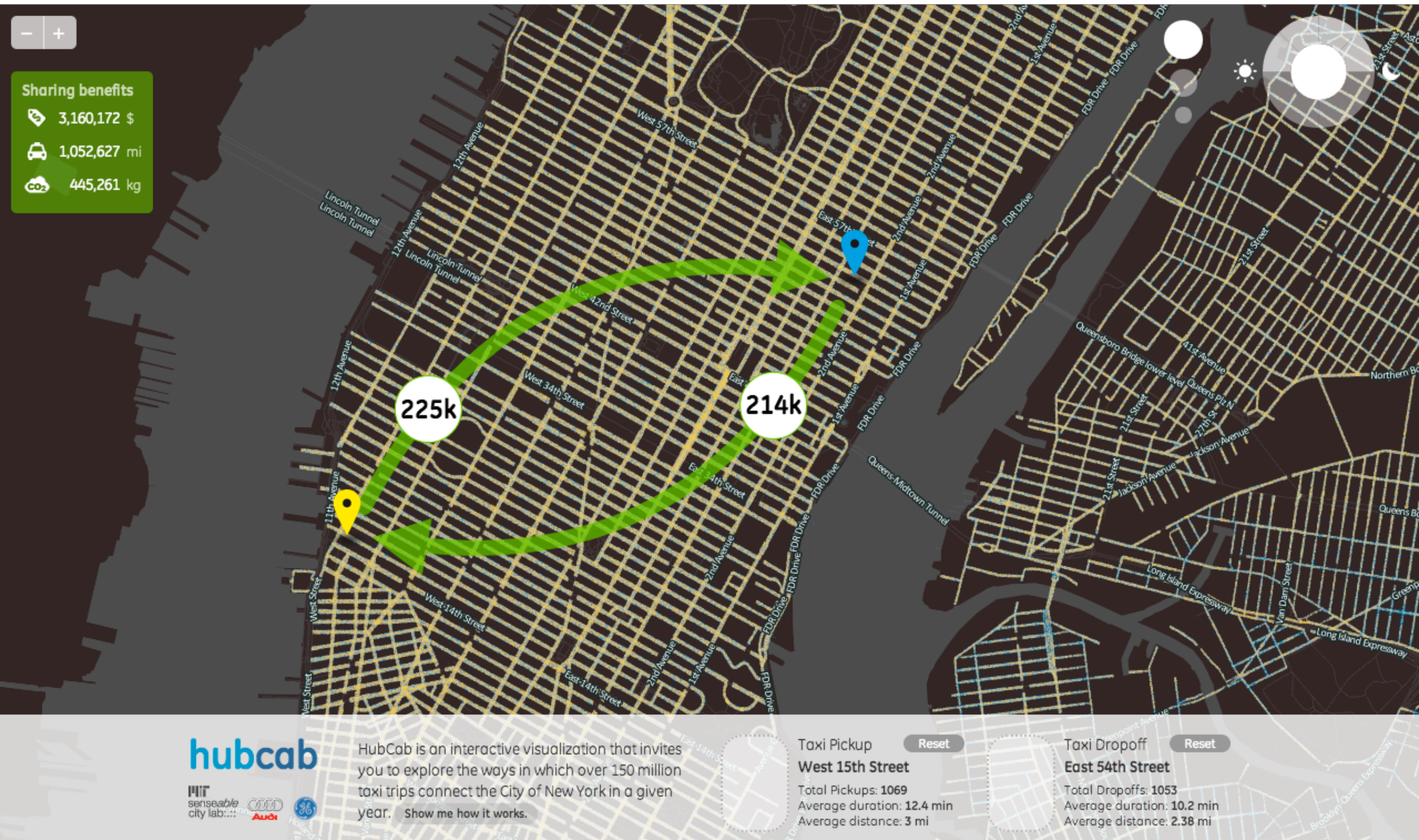
# Digital Footprints



*Hubcab, senseable city lab, 2014*



# Digital Footprints



*Hubcab, senseable city lab, 2014*



# Digital Footprints

STRAVA

| LABS

Global Heatmap

Join Strava

## Heatmap Options

### Heatmap Style

Gray ☒ Blue ☐ Yellow ☐

### Path Opacity

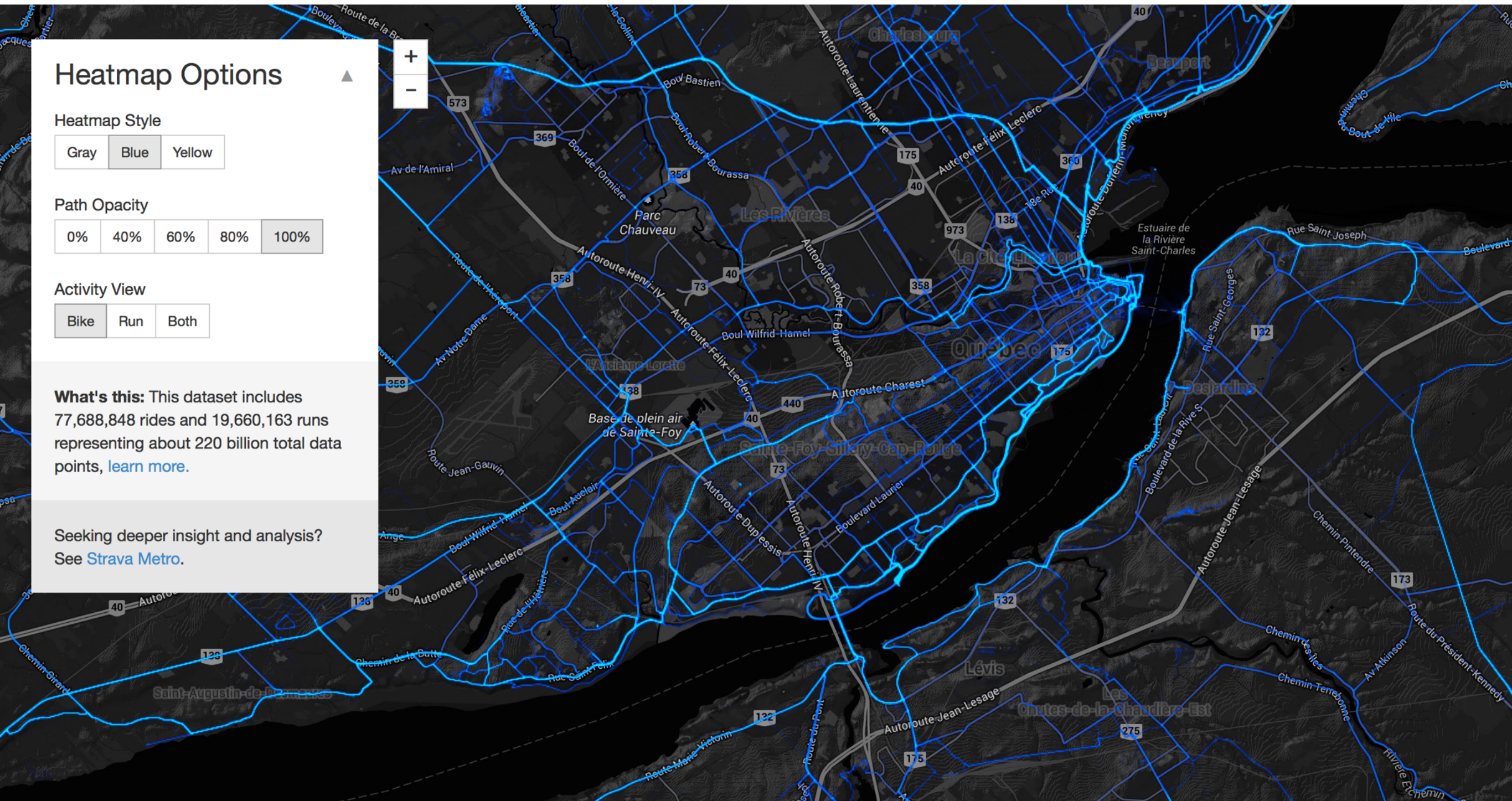
0% ☐ 40% ☐ 60% ☐ 80% ☐ 100% ☒

### Activity View

Bike ☒ Run ☐ Both ☐

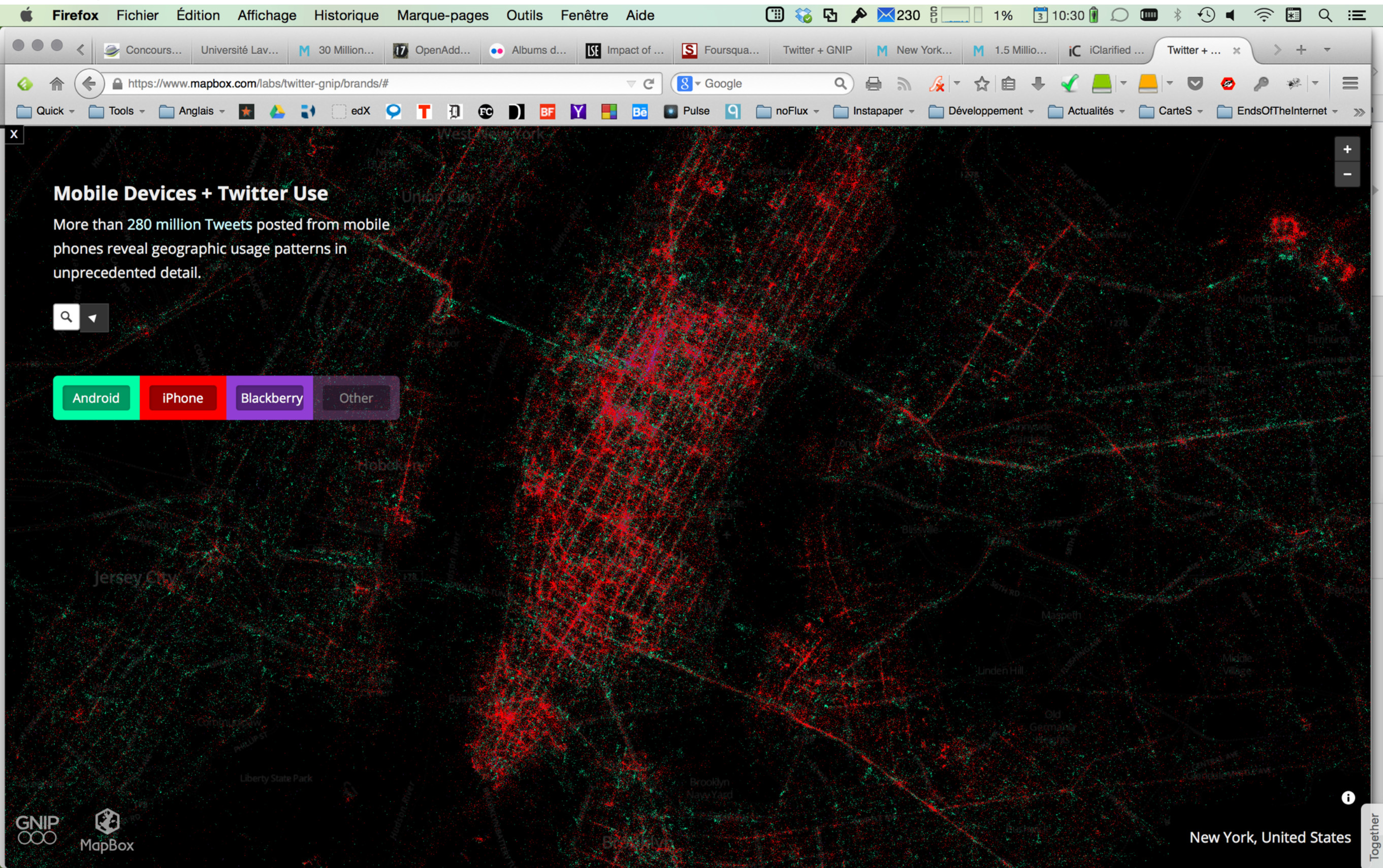
**What's this:** This dataset includes 77,688,848 rides and 19,660,163 runs representing about 220 billion total data points, [learn more](#).

Seeking deeper insight and analysis?  
See [Strava Metro](#).



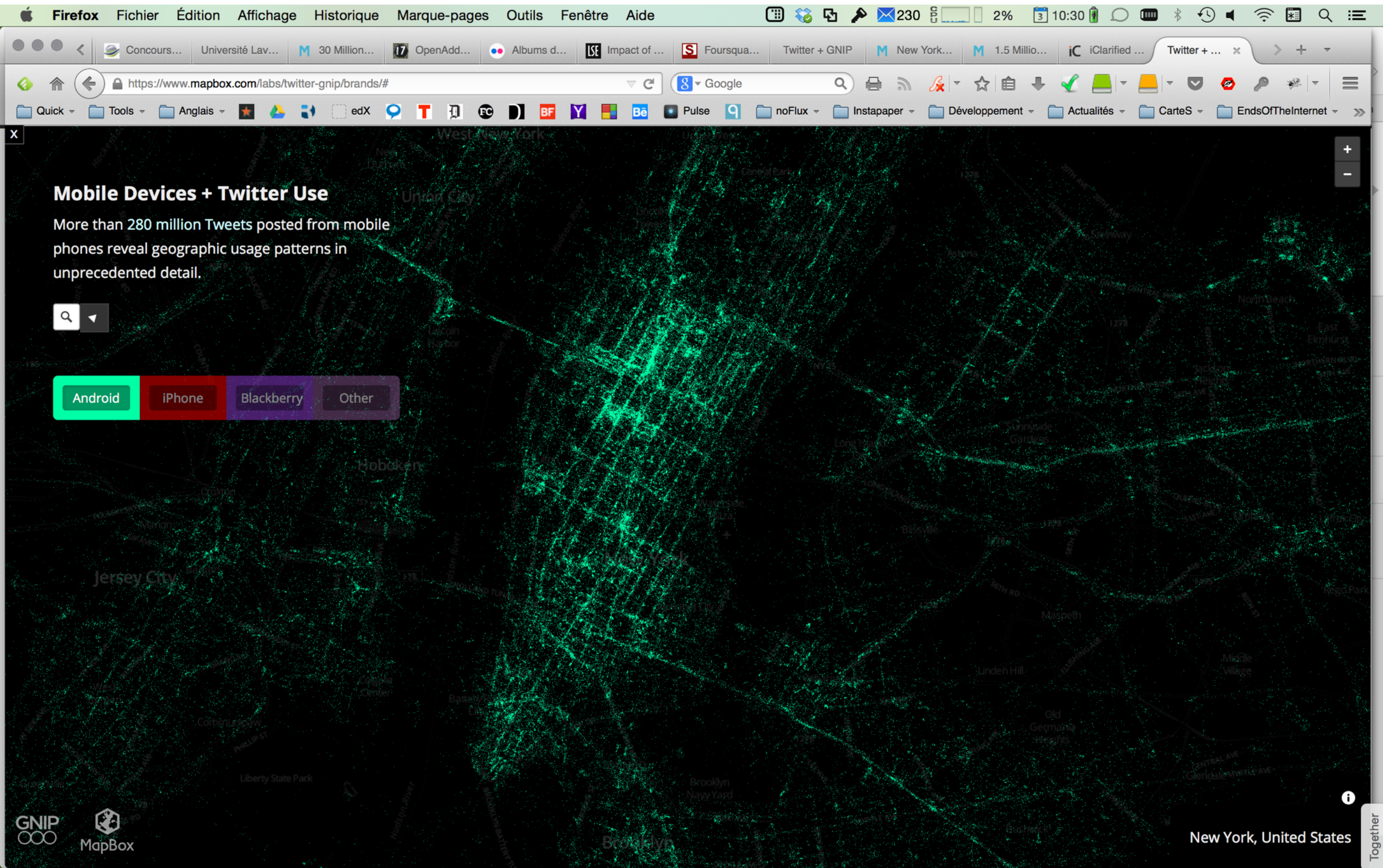


# Digital Footprints



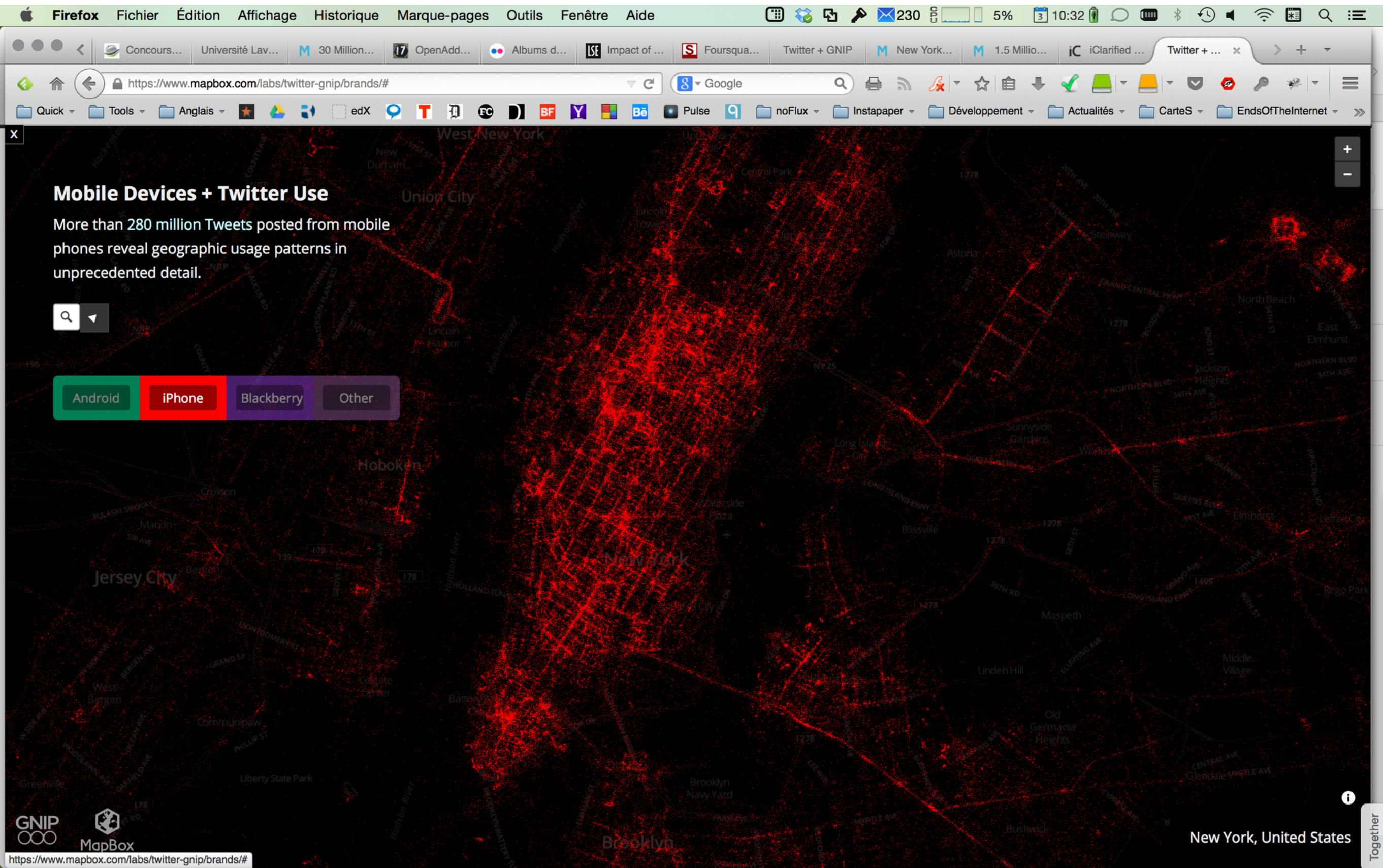


# Digital Footprints



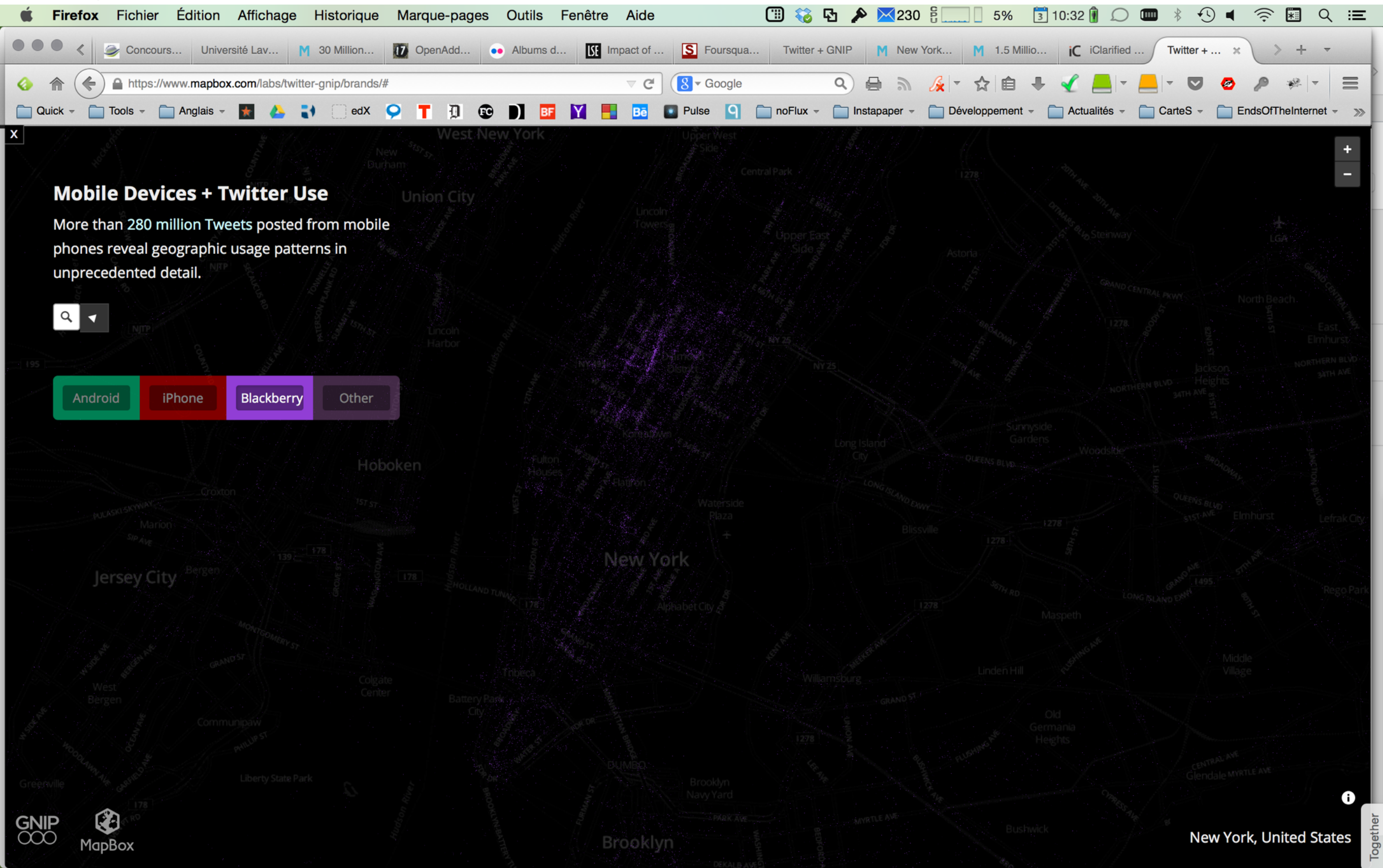


# Digital Footprints



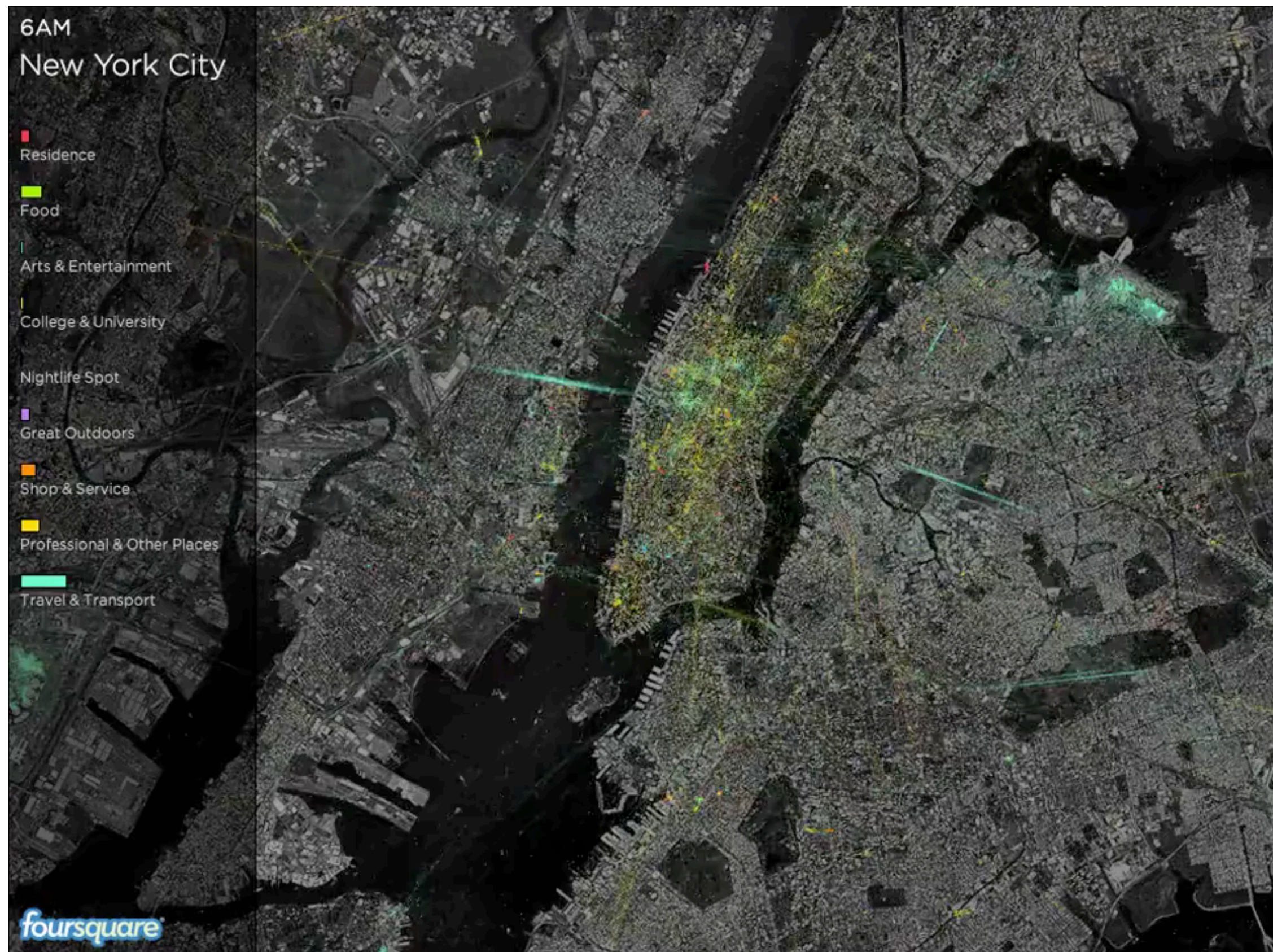


# Digital Footprints



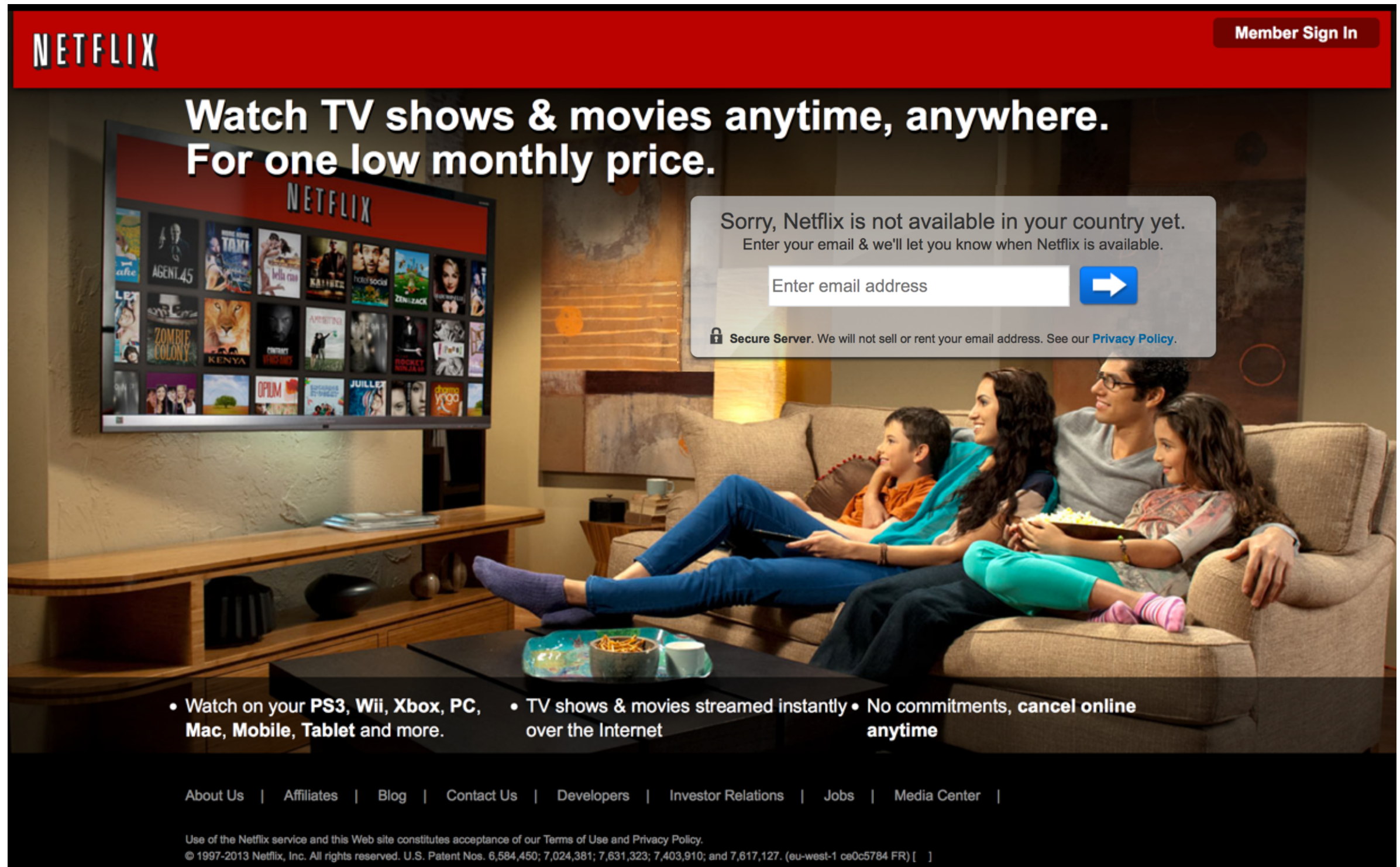


# Digital Footprints





# Digital Footprints



**NETFLIX** Member Sign In

**Watch TV shows & movies anytime, anywhere.  
For one low monthly price.**

Sorry, Netflix is not available in your country yet.  
Enter your email & we'll let you know when Netflix is available.

Enter email address

**Secure Server.** We will not sell or rent your email address. See our [Privacy Policy](#).

- Watch on your **PS3, Wii, Xbox, PC, Mac, Mobile, Tablet** and more.
- TV shows & movies streamed instantly over the Internet
- No commitments, **cancel online anytime**

[About Us](#) | [Affiliates](#) | [Blog](#) | [Contact Us](#) | [Developers](#) | [Investor Relations](#) | [Jobs](#) | [Media Center](#) |

Use of the Netflix service and this Web site constitutes acceptance of our Terms of Use and Privacy Policy.  
© 1997-2013 Netflix, Inc. All rights reserved. U.S. Patent Nos. 6,584,450; 7,024,381; 7,631,323; 7,403,910; and 7,617,127. (eu-west-1 ce0c5784 FR) [ ]



# Digital Footprints

## A Peek Into Netflix Queues

Examine Netflix rental patterns, neighborhood by neighborhood, in a dozen cities. Some titles with distinct patterns are [Mad Men](#), [Obsessed](#) and [Last Chance Harvey](#). [Comments \(135\)](#)

100 titles that were frequently rented from Netflix in 2009



Change how movies are sorted

Most rented, Alphabetical, By metacore

## The Curious Case of Benjamin Button



70

Metacritic score

100=loved by critics, 0=hated

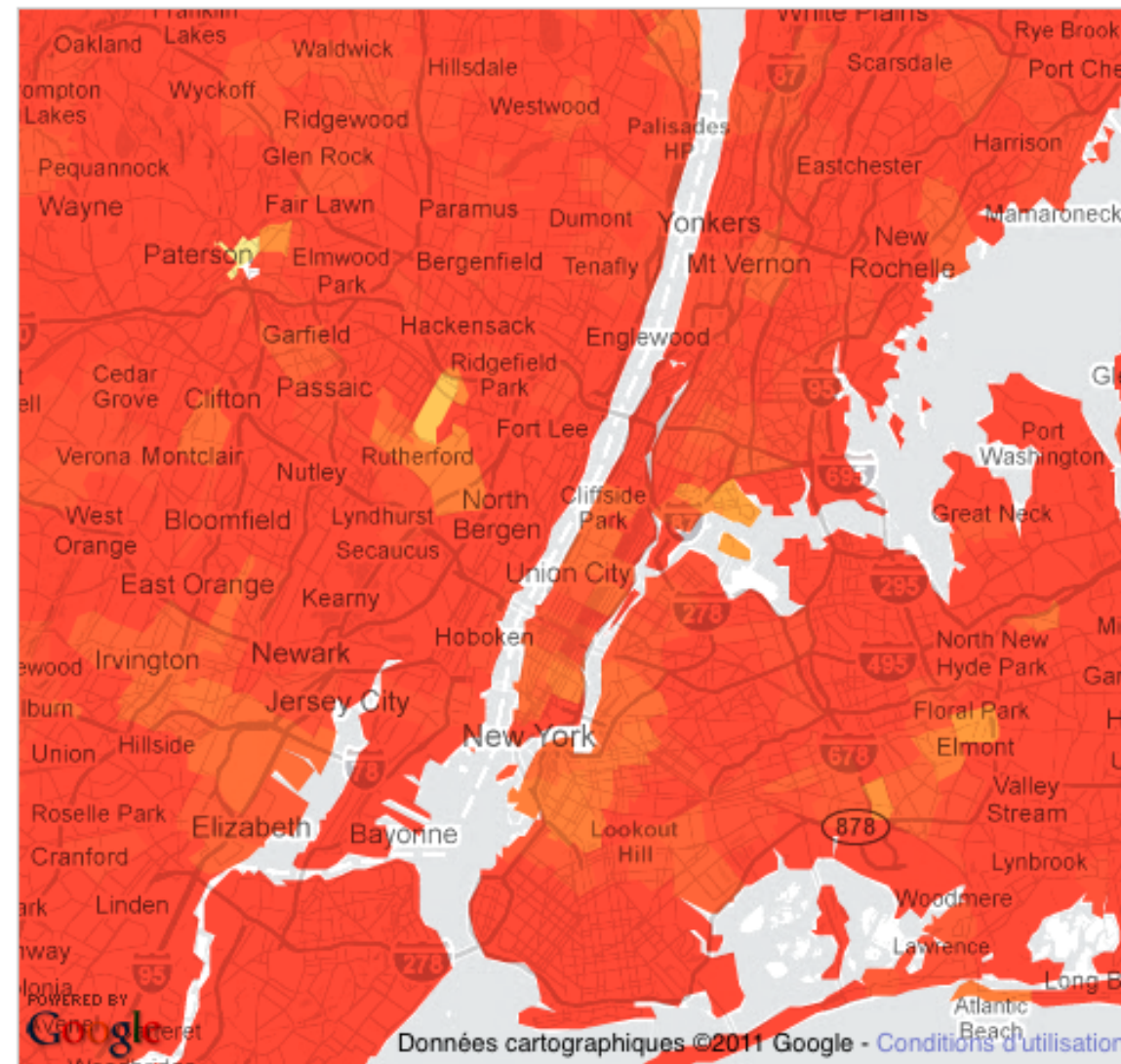
"The Curious Case of Benjamin Button," which occupies around 25 pages in the collected works of F. Scott Fitzgerald, is a slender piece of whimsy, a charming fantasy about a man who ages in reverse, descending through the years from newborn senescence to terminal infancy. As Fitzgerald unravels it, Benjamin's story serves as the pretext for some amusing, fairly superficial observations about child rearing, undergraduate behavior and courtship in the late 19th and early 20th centuries.

[Read Rest of NYT Review »](#)

The ZIP codes are shaded according to each movie's rank.

Ranked No. 1

No. 50



Sources: Netflix provided data on the top 50 rentals in 2009 in each ZIP code. Titles are listed in the approximate order of popularity across selected metropolitan areas. Metascores are from metacritic.com.



# Digital Footprints

## A Peek Into Netflix Queues

Examine Netflix rental patterns, neighborhood by neighborhood, in a dozen cities. Some titles with distinct patterns are [Mad Men](#), [Obsessed](#) and [Last Chance Harvey](#). [Comments \(135\)](#)

100 titles that were frequently rented from Netflix in 2009



Change how movies are sorted



## Vicky Cristina Barcelona



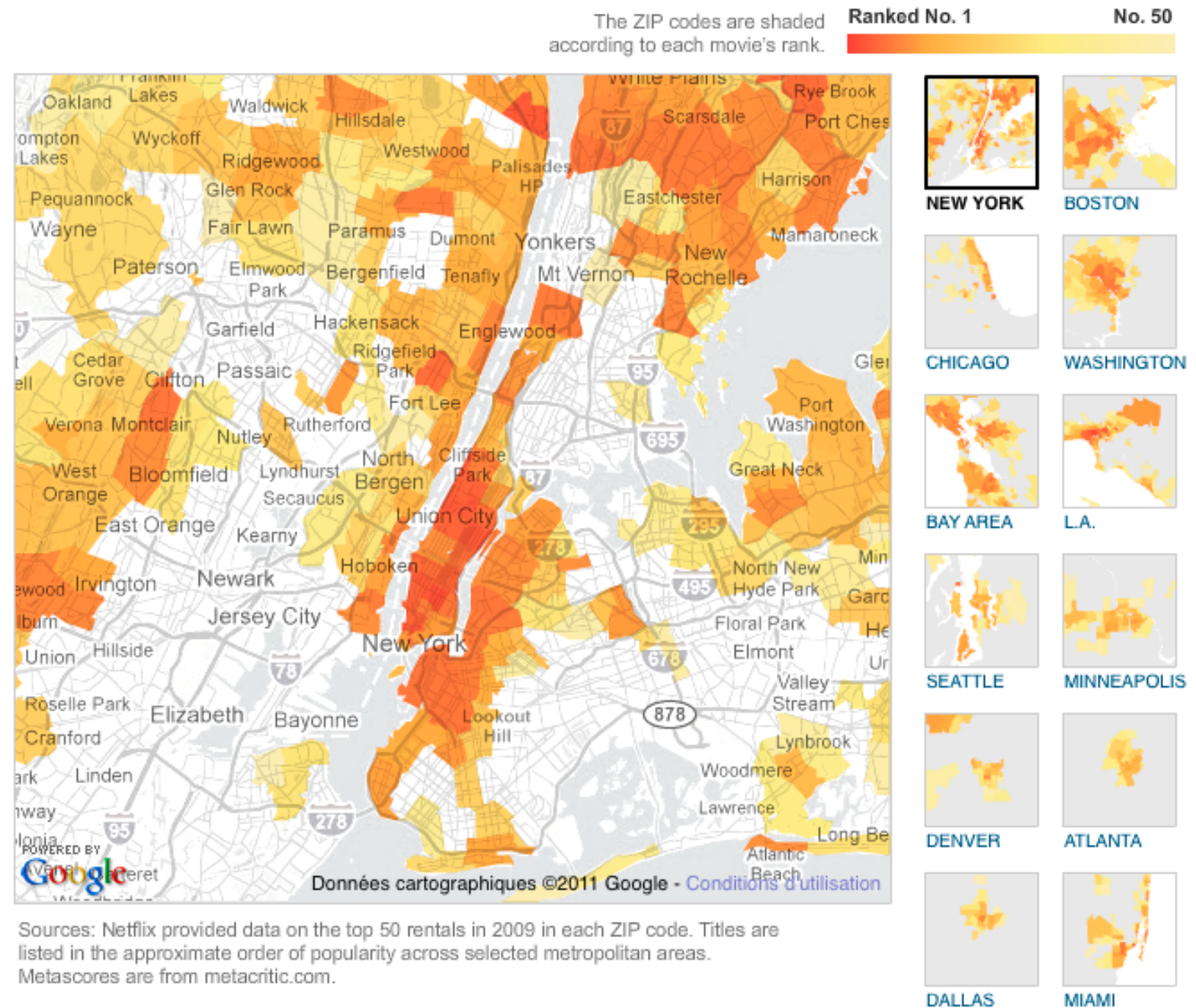
70

Metacritic score

100=loved by critics, 0=hated

Bathed in light so lusciously golden and honeyed that you might be tempted to lick the screen, "Vicky Cristina Barcelona" is a rueful comedy about two young American women who, during a summertime European idyll, savor many of the Continental delicacies that such travelers often take pleasure in: art, music, culture, yes, but also strange bodies and unexpected dreams. These bodies and dreams open possibilities for the women, intimating freer, somehow different lives, despite the persistent tugging of a voice that hovers at the edge of this story trying to pull it and its characters down to earth, where desire can fade quickly.

[Read Rest of NYT Review »](#)





# Digital Footprints

## A Peek Into Netflix Queues

Examine Netflix rental patterns, neighborhood by neighborhood, in a dozen cities. Some titles with distinct patterns are [Mad Men](#), [Obsessed](#) and [Last Chance Harvey](#). [Comments \(135\)](#)

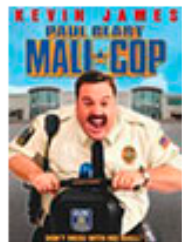
100 titles that were frequently rented from Netflix in 2009



Change how movies are sorted

Most rented, Alphabetical, By metacore

### Paul Blart: Mall Cop



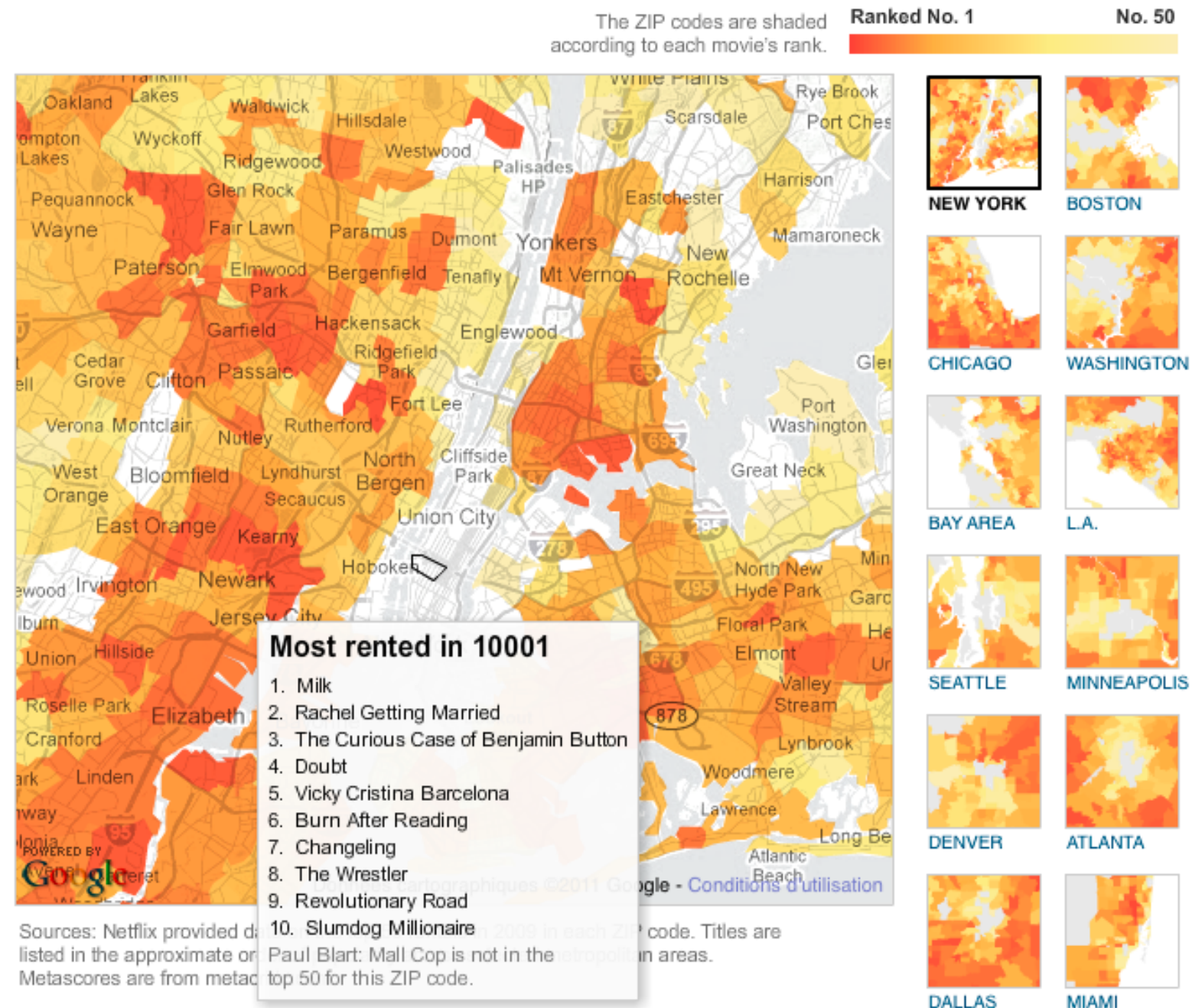
Fat people are funny. Fat people who fall over are funnier. Fat people who fall over and have humiliating working-class jobs? Stop, you're killing me!

[Read Rest of NYT Review »](#)

39

Metacritic score

100=loved by critics, 0=hated





# Digital Footprints

## A Peek Into Netflix Queues

Examine Netflix rental patterns, neighborhood by neighborhood, in a dozen cities. Some titles with distinct patterns are [Mad Men](#), [Obsessed](#) and [Last Chance Harvey](#). [Comments \(135\)](#)

100 titles that were frequently rented from Netflix in 2009



Change how movies are sorted

Most rented, Alphabetical, By metacore

### Paul Blart: Mall Cop



Fat people are funny. Fat people who fall over are funnier. Fat people who fall over and have humiliating working-class jobs? Stop, you're killing me!

[Read Rest of NYT Review »](#)

39

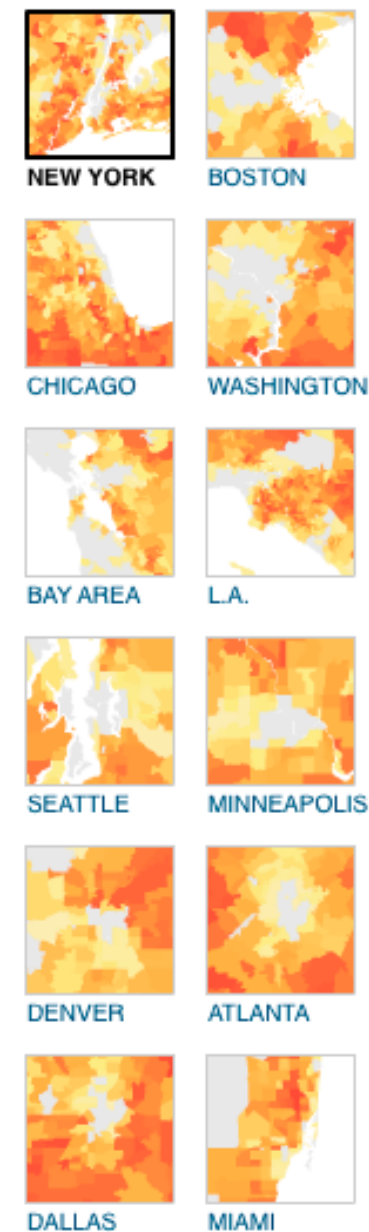
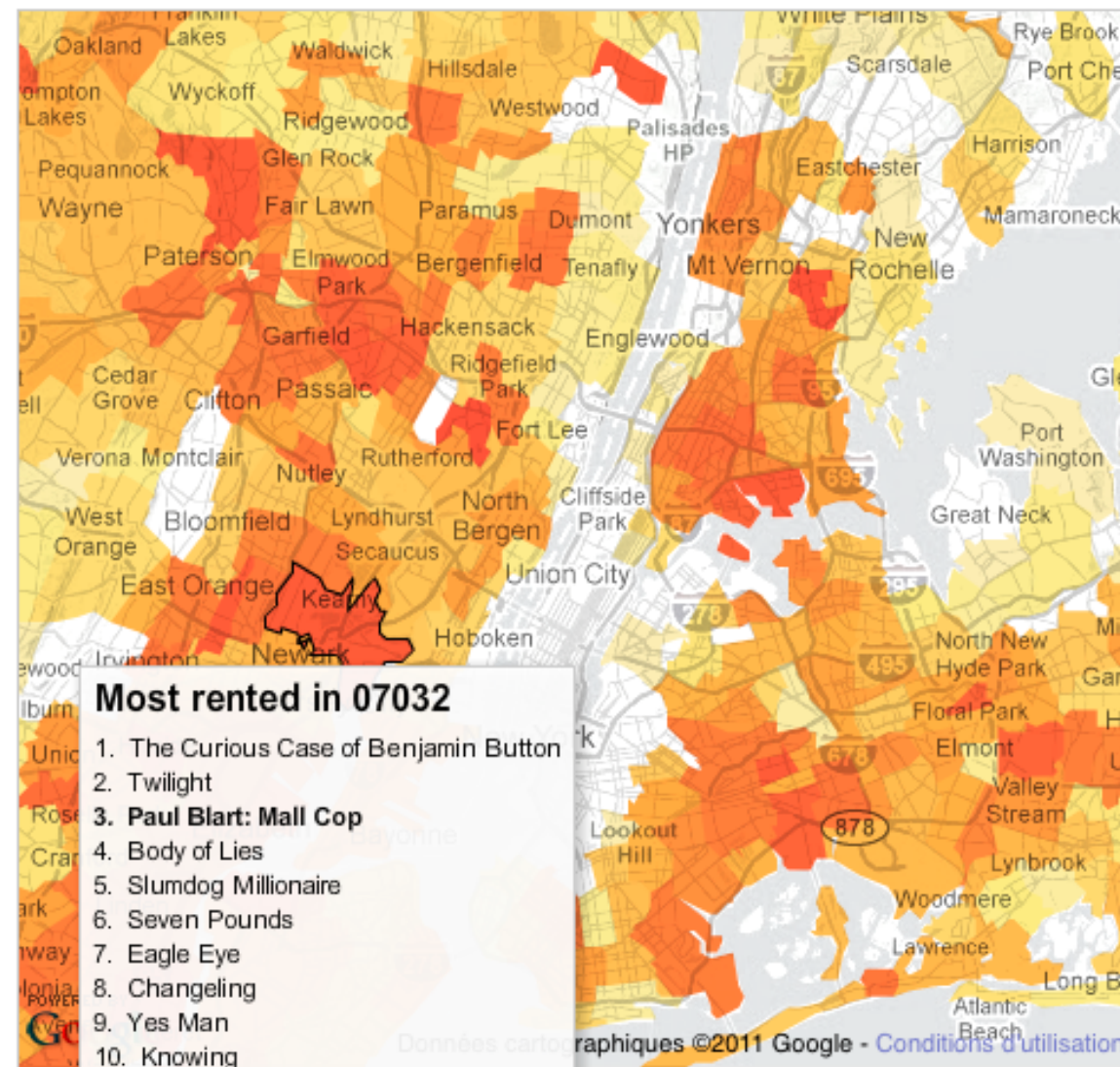
Metacritic score

100=loved by critics, 0=hated

The ZIP codes are shaded according to each movie's rank.

Ranked No. 1

No. 50



Sources: Netflix provided data on the top 50 rentals in 2009 in each ZIP code. Titles are listed in the approximate order of popularity across selected metropolitan areas. Metascores are from metacritic.com.



# Digital Footprints

---

- L'expression individuelle
- Pas de question *a priori*
- Production continue
- La fin des normes et des catégories ?
- L'immanence du réel
- L'illusion de la donnée
- L'importance de la transduction

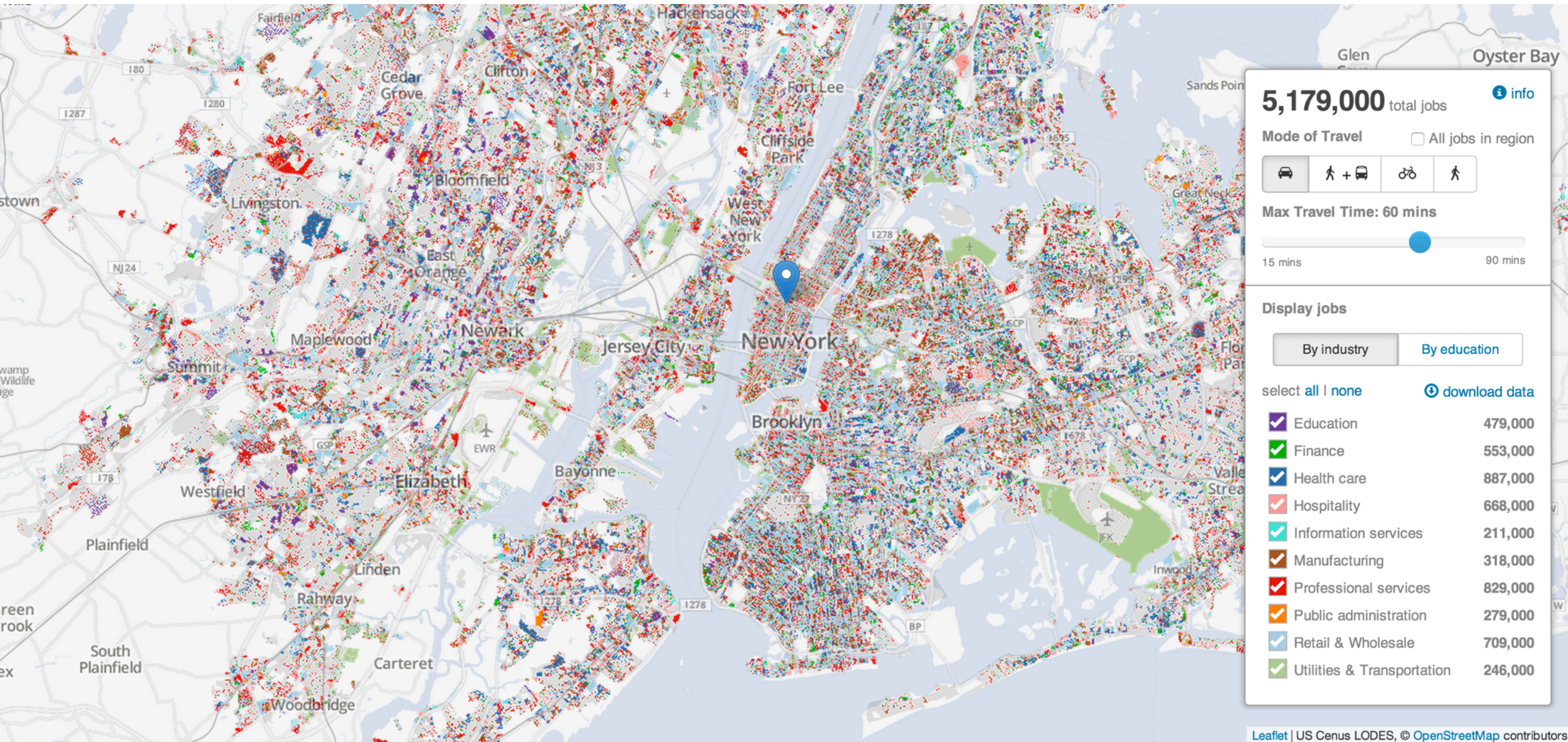
# Rendre lisibles les villes invisibles

---

## Open Data



# Open Data

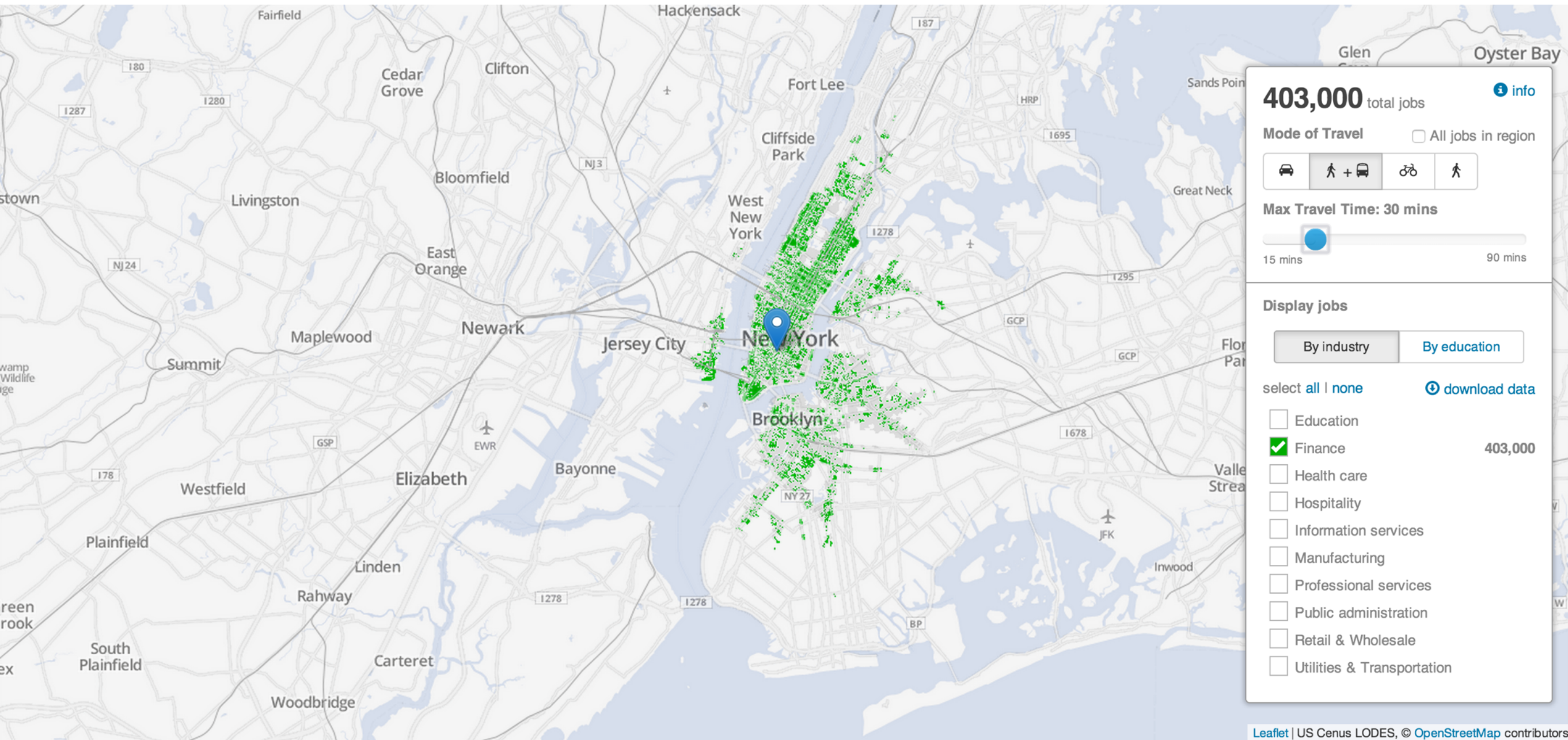


Regional Plan Association - From, "Fragile Success: Taking Stock of the New York Metropolitan Region", Regional Plan Association - 2014

Sources: U.S. Census LEHD Origin-Destination Employment Statistics, OpenStreetMap, OpenTripPlanner, NJTPA Regional Transportation Model, NYMTC, GTFS Feeds: MTA, NJT, Port Authority, NYCDOT, NY Waterway, Westchester Beeline, Nassau Inter-County Express, Rockland County TZx, CT Transit



# Open Data

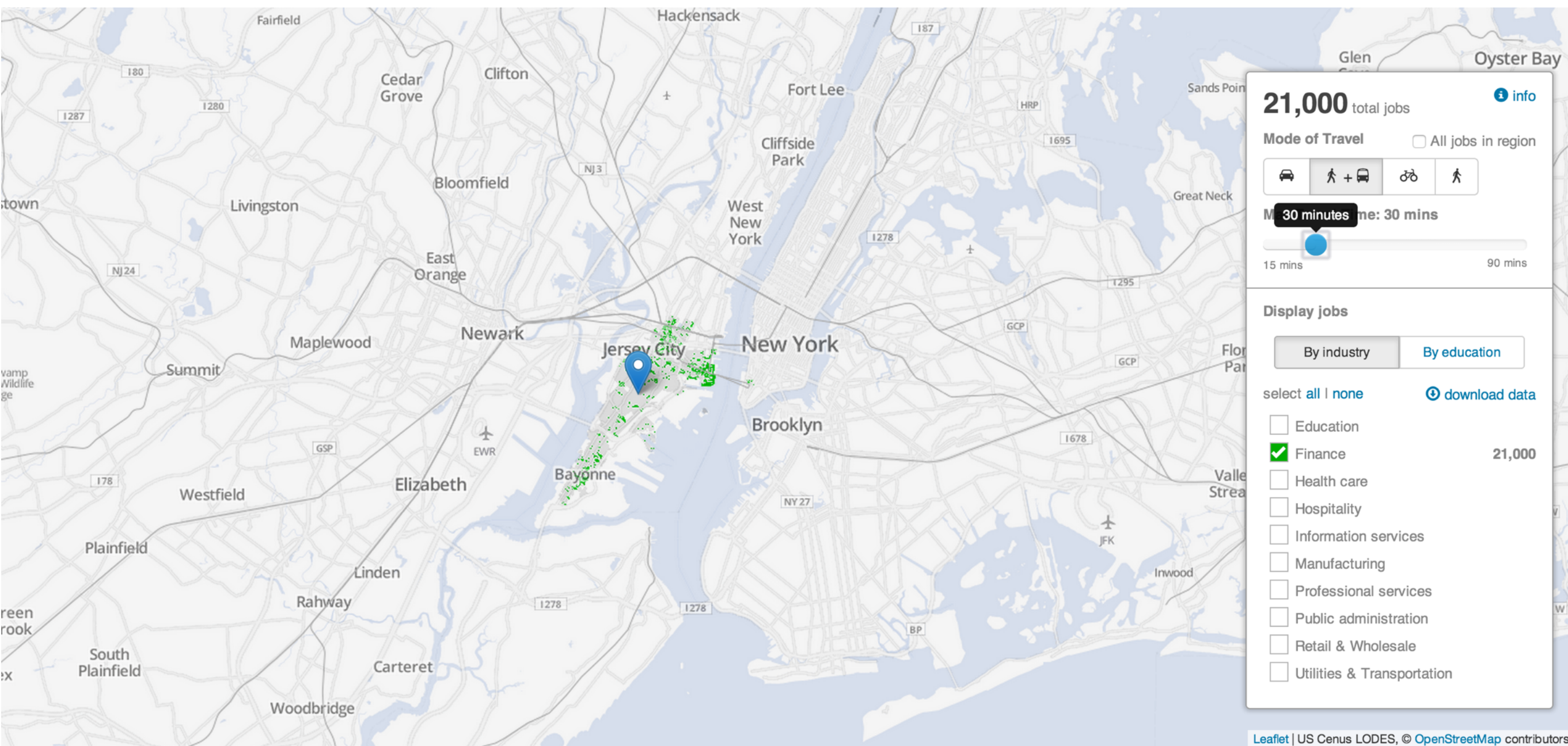


Regional Plan Association - From, "Fragile Success: Taking Stock of the New York Metropolitan Region", Regional Plan Association - 2014

Sources: U.S. Census LEHD Origin-Destination Employment Statistics, OpenStreetMap, OpenTripPlanner, NJTPA Regional Transportation Model, NYMTC, GTFS Feeds: MTA, NJT, Port Authority, NYCDOT, NY Waterway, Westchester Beeline, Nassau Inter-County Express, Rockland County TZx, CT Transit



# Open Data

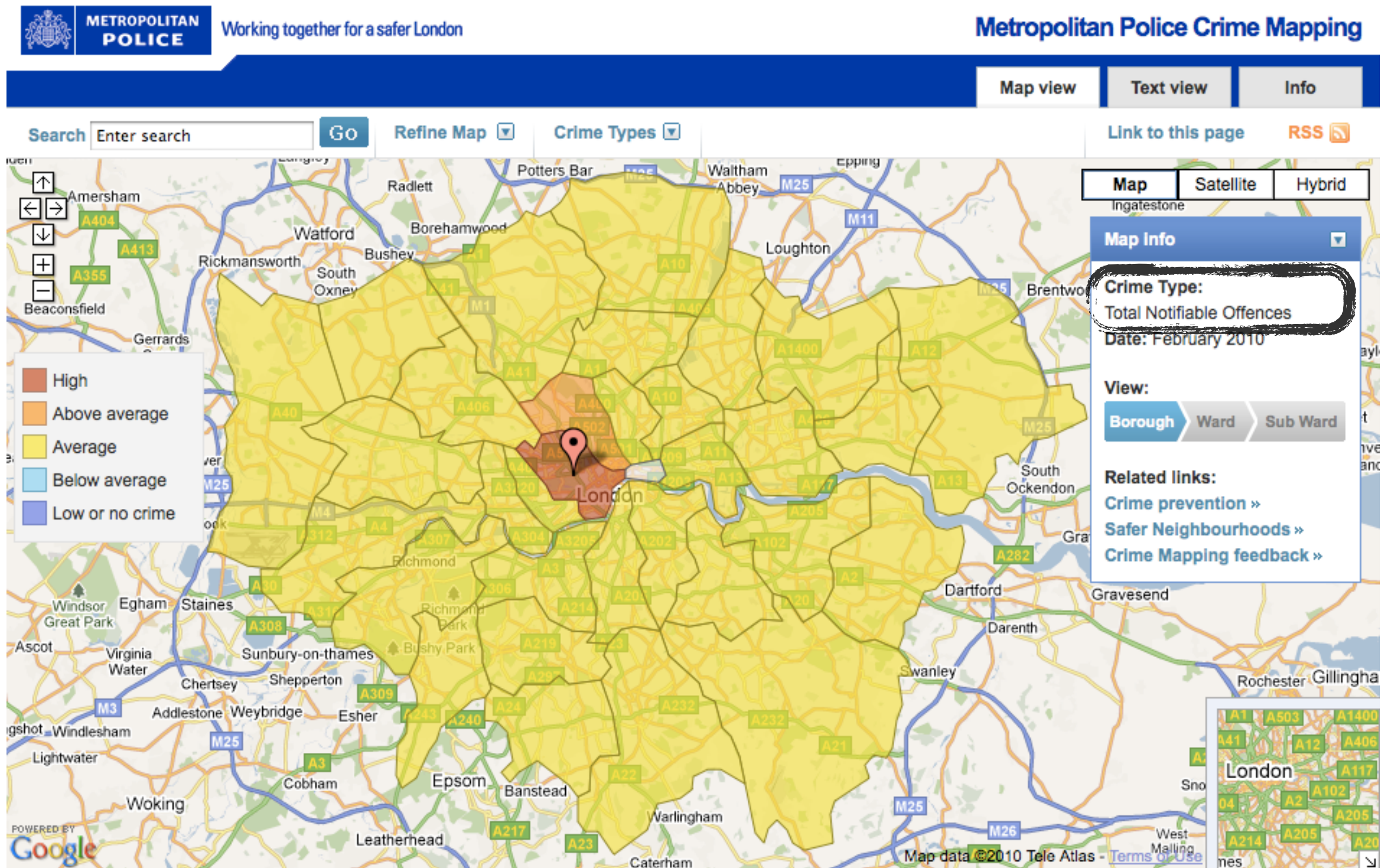


Regional Plan Association - From, "Fragile Success: Taking Stock of the New York Metropolitan Region", Regional Plan Association - 2014

Sources: U.S. Census LEHD Origin-Destination Employment Statistics, OpenStreetMap, OpenTripPlanner, NJTPA Regional Transportation Model, NYMTC, GTFS Feeds: MTA, NJT, Port Authority, NYCDOT, NY Waterway, Westchester Beeline, Nassau Inter-County Express, Rockland County TZx, CT Transit

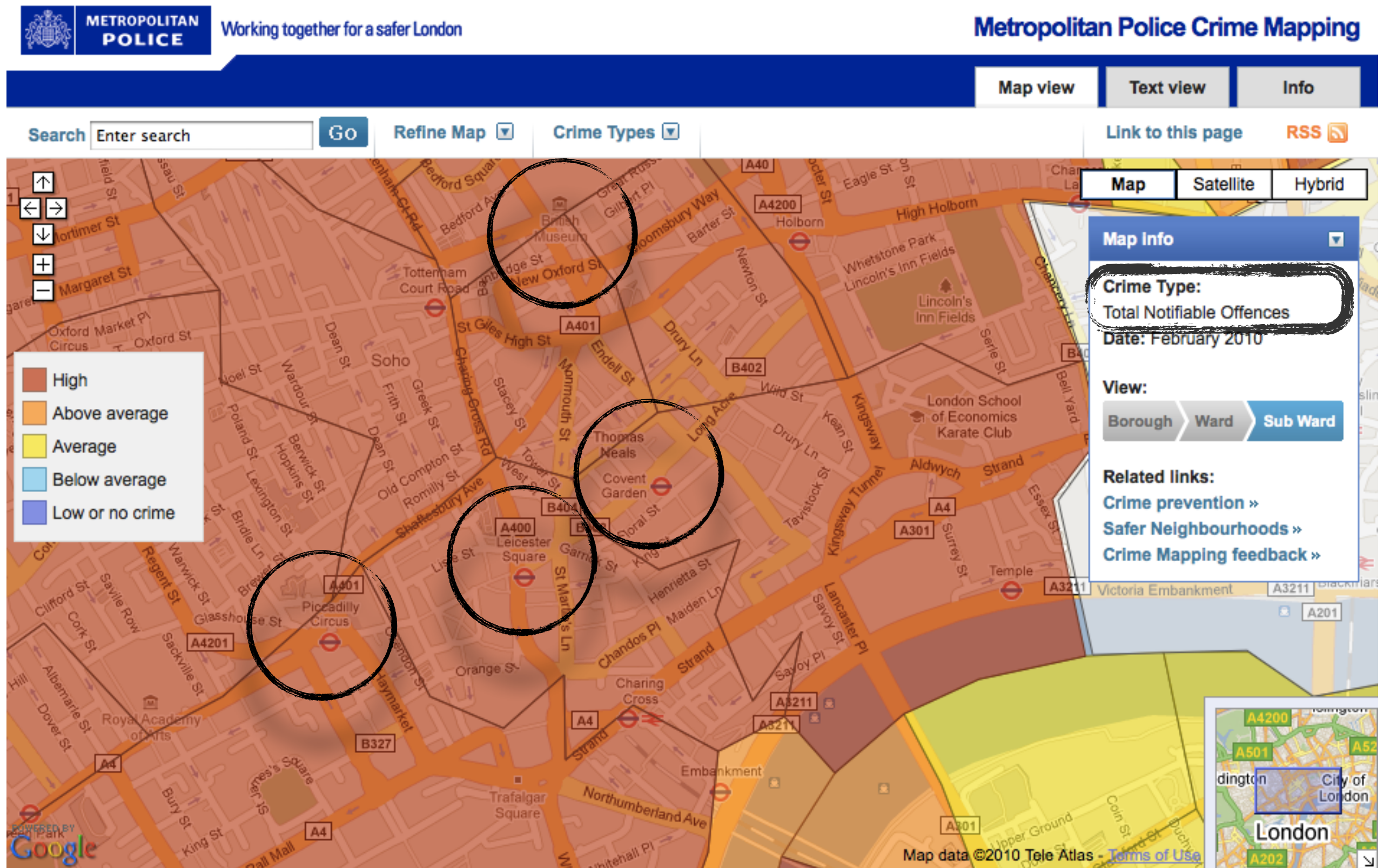


# Open Data





# Open Data



[Map view](#)
[Text view](#)
[Info](#)

Search

[Go](#)

[Refine Map](#) ▼

[Crime Types](#) ▼

[Link to this page](#)

[RSS](#) 

### Crime Mapping text view: Total notifiable offences, February 2010

You are in > London

#### London boroughs

<a href="#">Borough</a> ▲	<a href="#">Crime count</a>	<a href="#">Crime rate</a>	
<a href="#">Barking &amp; Dagenham</a>	1553	9.47	+
<a href="#">Barnet</a>	2145	6.82	+
<a href="#">Bexley</a>	1159	5.31	+
<a href="#">Brent</a>	2226	8.45	+
<a href="#">Bromley</a>	1730	5.85	+
<a href="#">Camden</a>	2653	13.40	+
<a href="#">Croydon</a>	2570	7.77	+
<a href="#">Ealing</a>	2778	9.23	+
<a href="#">Enfield</a>	2016	7.37	+
<a href="#">Greenwich</a>	1961	9.15	+
<a href="#">Hackney</a>	2167	10.68	+
<a href="#">Hammersmith &amp; Fulham</a>	1719	10.40	+
<a href="#">Haringey</a>	1815	8.38	+
<a href="#">Harrow</a>	1267	6.13	+
<a href="#">Havering</a>	1389	6.19	+

#### Crimes in Metropolitan Police District

Crime type	Crime count	Crime rate
Total notifiable offences	63786	8.90
Residential burglary	5002	0.70
Burglary other	2456	0.34
Theft of motor vehicle	1927	0.27
Theft from motor vehicle	5637	0.79
Robbery business	290	0.04
Robbery personal	2590	0.36
Violence against the person	13170	1.84
Most serious violence	756	0.11
Anti-social behaviour	30493	4.26

#### Related links

[Crime prevention »](#)

[Safer Neighbourhoods »](#)

[Crime Mapping feedback »](#)

#### Last three months trend

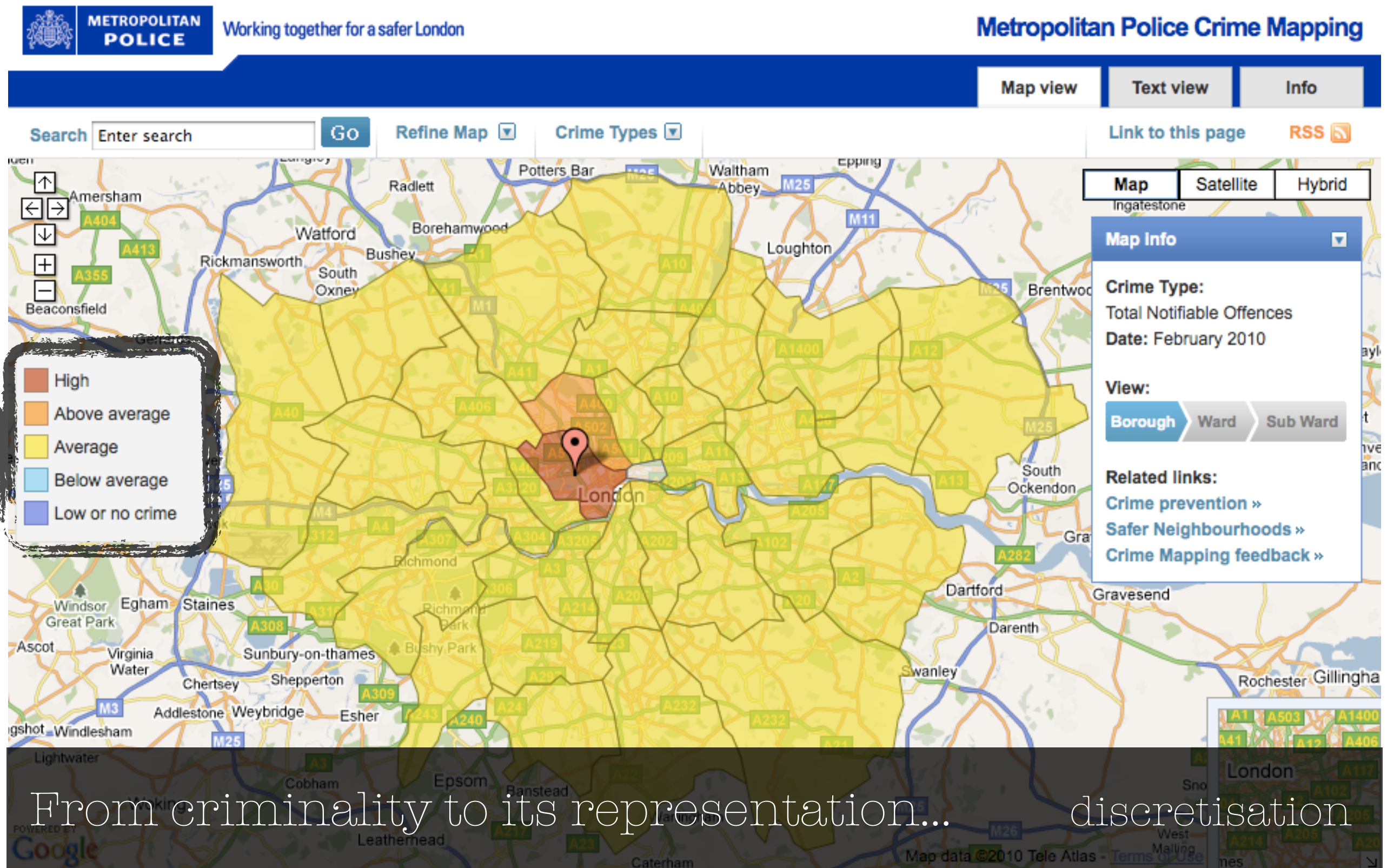
Area	December	January	February
MPS	62890	63647	63786

#### Annual crime count

Area	2006/07	2007/08	2008/09
------	---------	---------	---------



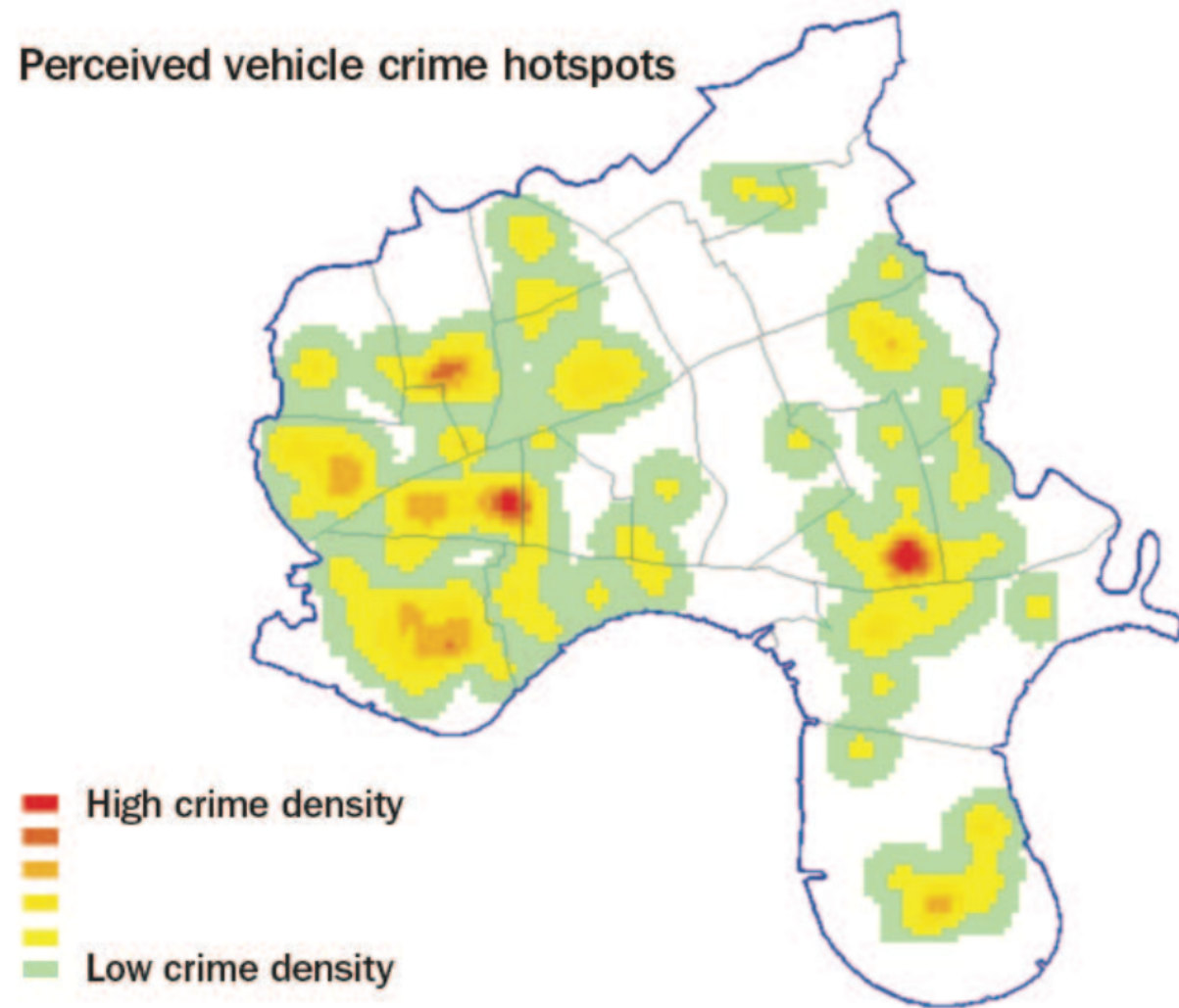
# Open Data





# Open Data

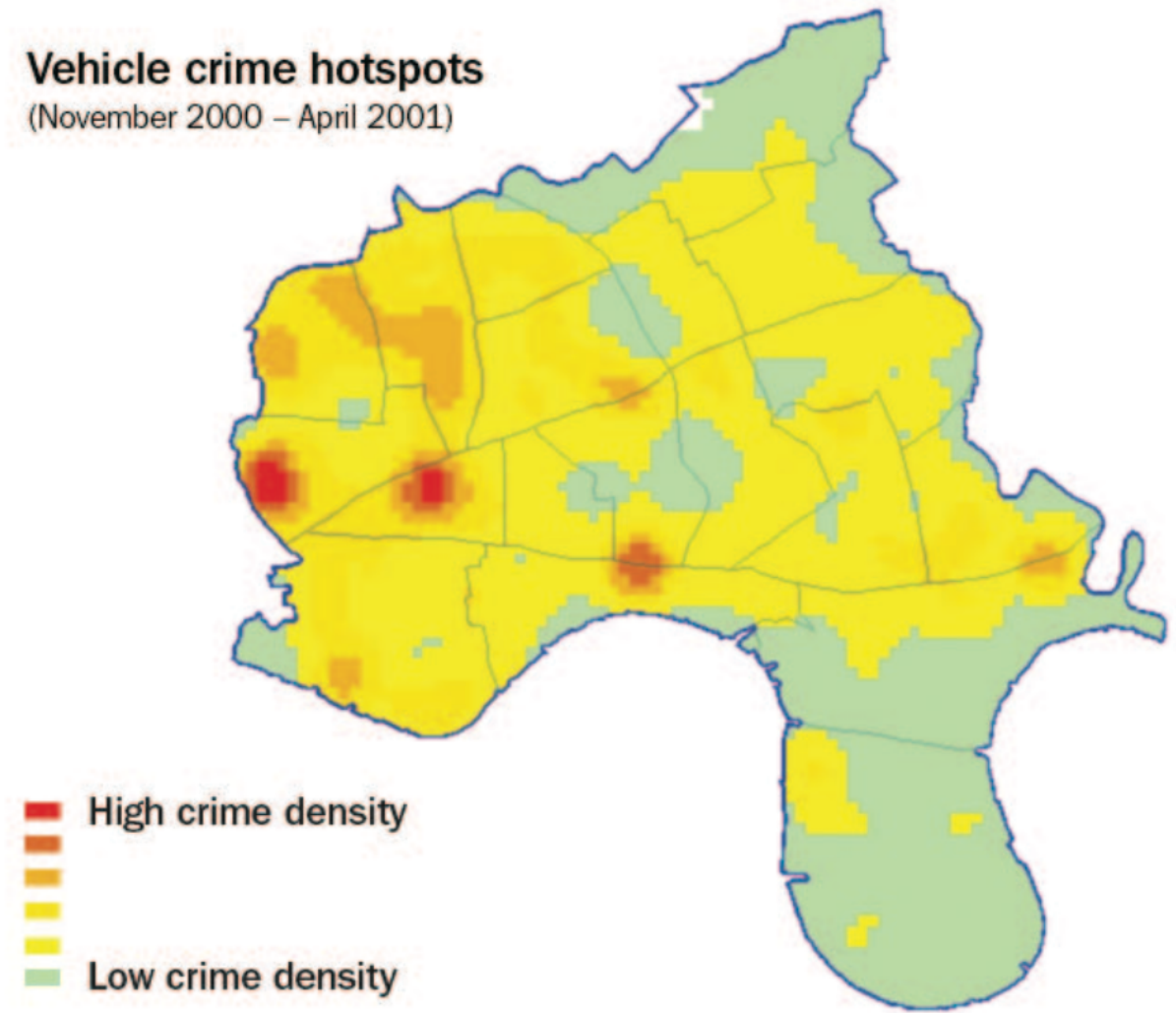
Perceived vehicle crime hotspots



Map A: Perceived hotspots

Vehicle crime hotspots

(November 2000 – April 2001)

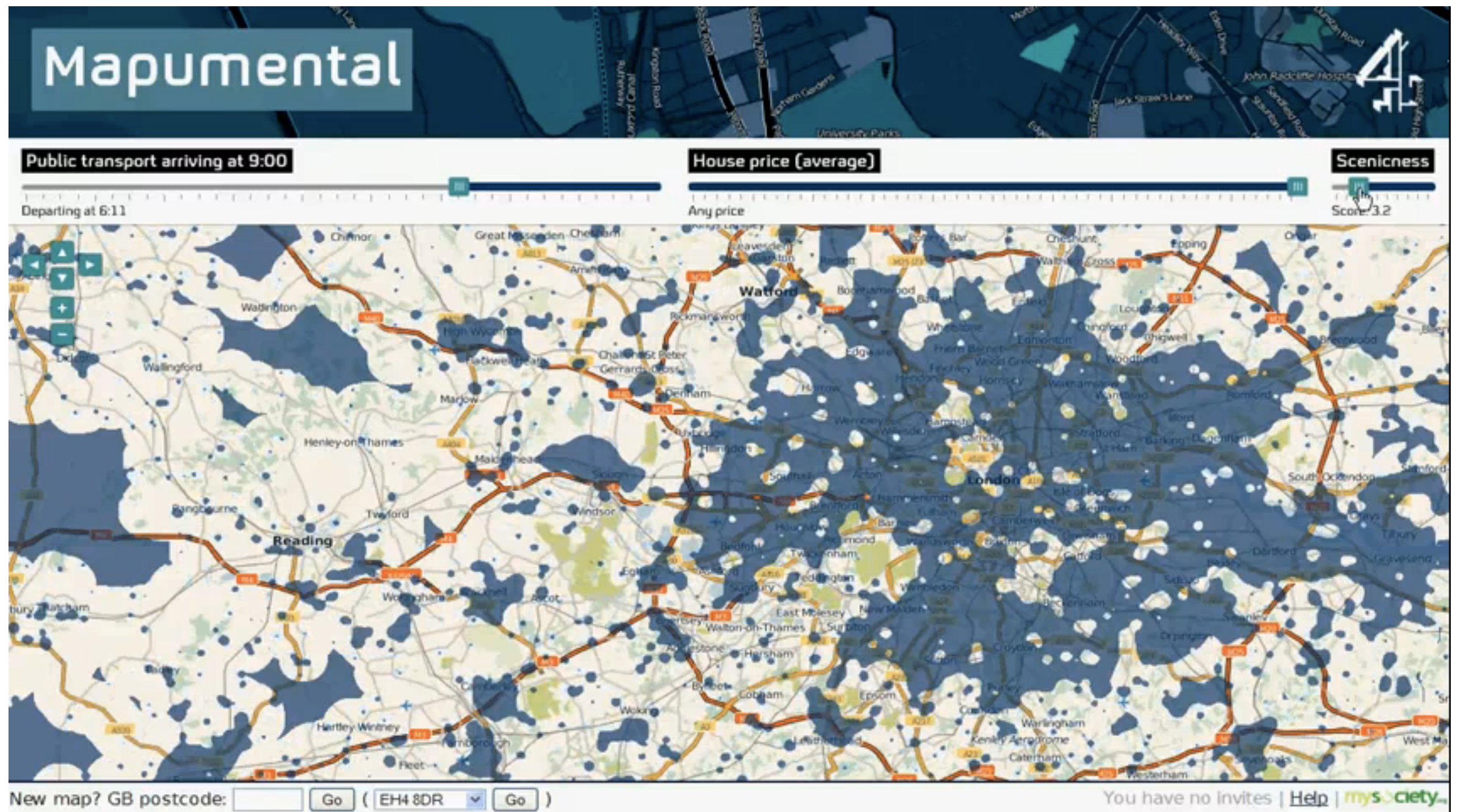


Map B: Actual hotspots

Home Office, Crime Mapping: Improving Performance, **Perception de la criminalité par les officiers de police**, 2005



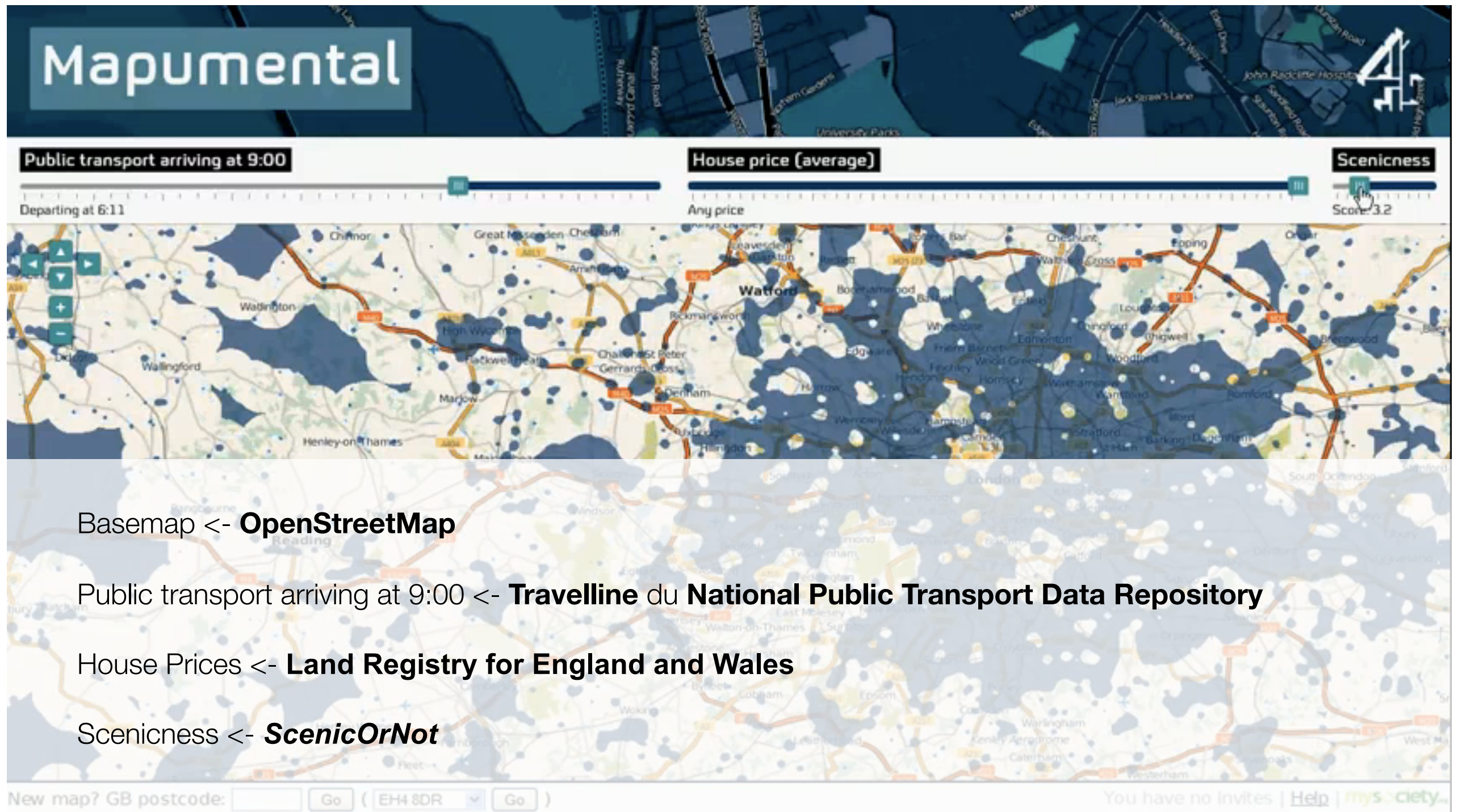
# Open Data



MySociety, Mapumental *beta*, 2010



# Open Data



MySociety, Mapumental *beta*, 2010



# Open Data



# Open Data

**geograph**  
photograph every grid square!

You are not logged in [login](#) | [register](#)

search images... 

**Home**  
View  
[Search](#)  
[Maps](#)  
[Explore](#)  
[Collections](#)  
Interact  
[Games](#)  
[Activities](#)  
[Discussions](#)  
Contributors  
[Submit](#)  
[Statistics](#)  
[Leaderboards](#)  
General  
[FAQ](#)  
[Information](#)  
[Sitemap](#)  
[Contact Us](#)

**Welcome to Geograph Britain and Ireland**  
The Geograph Britain and Ireland project aims to collect geographically representative photographs and information for every square kilometre of [Great Britain](#) and [Ireland](#), and you can be part of it.  
Looking for [Geograph British Isles?](#)

**Coverage Map**  


**Photograph of the day [\[more...\]](#)**  
  
**[Skua attack](#)**  
 by [malcolm simpson](#) for [ND3884](#)  
Taken 25 Jun, 2009

**What is Geographing?**

- It's a game - how many grid squares will you contribute? •
- It's a geography project for the people •
- It's a national photography project •
- It's a good excuse to get out more! •
- It's a free and [open online community](#) project for all •

**Recent Photos [\[more...\]](#)**  
  
[Cricket Pavilion](#) by [Julianne Savage](#) for square [TQ9384](#)  
  
[Shoeburyness QF battery \(2\)](#) by [Julianne Savage](#) for square [TQ9384](#)  
  
[Shoebury Garrison: Former Married Officers' Quarters](#) by [Nigel Cox](#) for square [TQ9384](#)  
  
[Across the old Range](#) by [Glyn Baker](#) for square [TQ9384](#)  


There are two new recent features worthy of highlight.  
The first is the [new Blog section](#), linked in the left side-menu. Use this to share musings or interesting accounts of recent Geographing trips. Of course can illustrate the post with Geograph images easily.



# Open Data

...



3



5



4



2

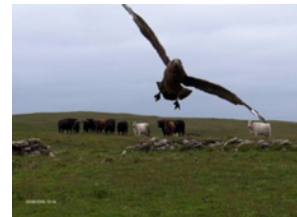
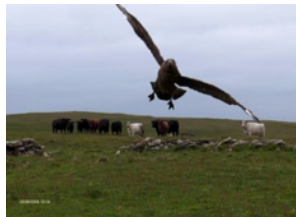
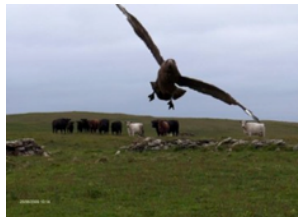
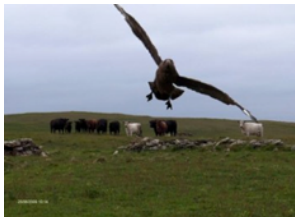
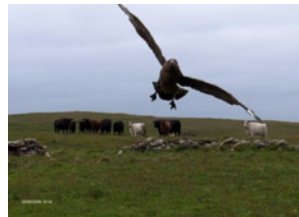


4,23  
*cv 0,32*

205 827 photos  
1 349 343 votes  
6,55 votes en moyenne  
1 photo pour 1 km<sup>2</sup>



5,72  
*cv 0,21*



3,96  
*cv 0,41*

4,38 (cv 0,366)  
vs cv 0,381



3,11  
*cv 0,39*

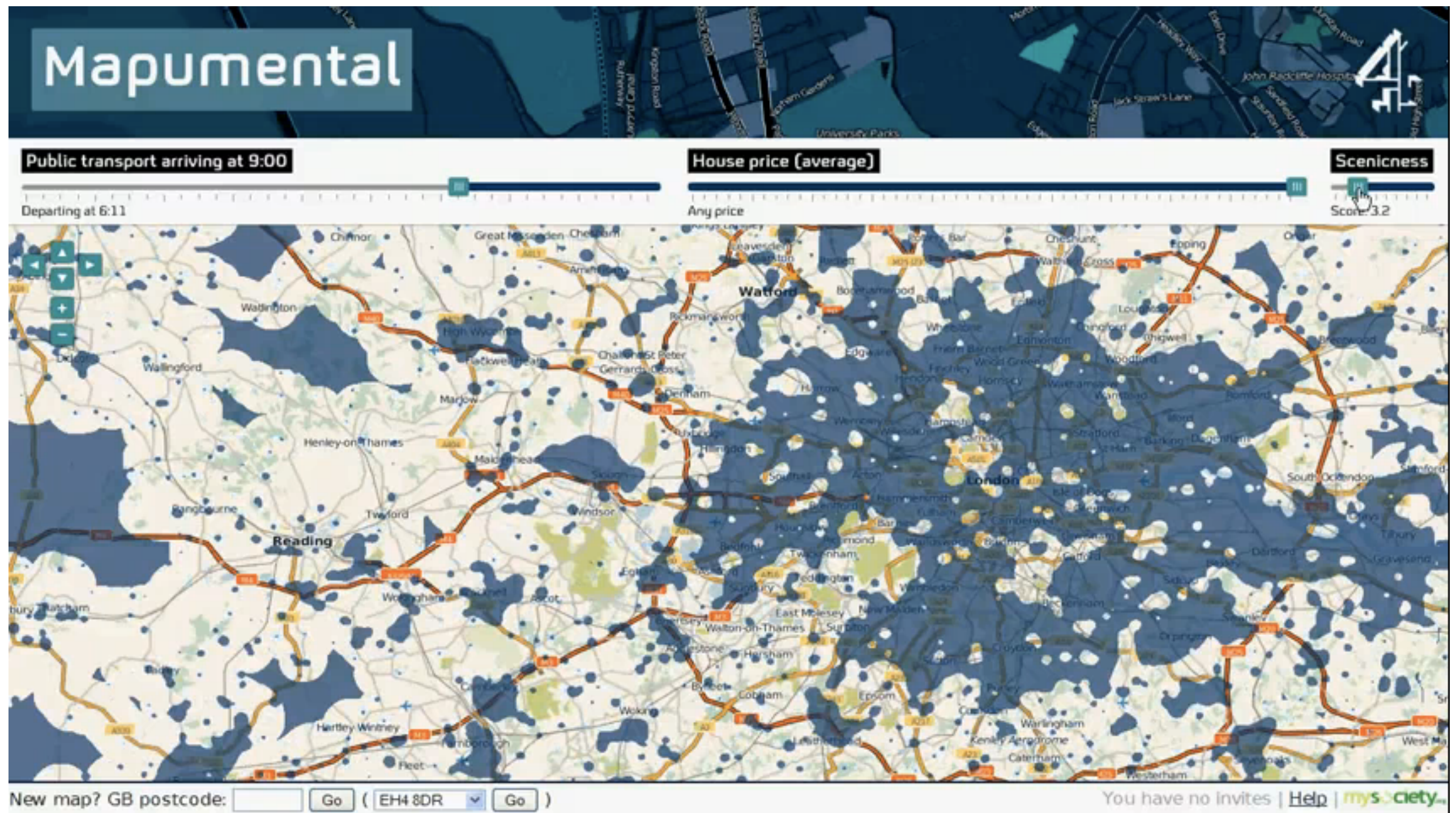


...

⋮



# Open Data



MySociety, Mapumental *beta*, 2010



# Rendre lisibles les villes invisibles

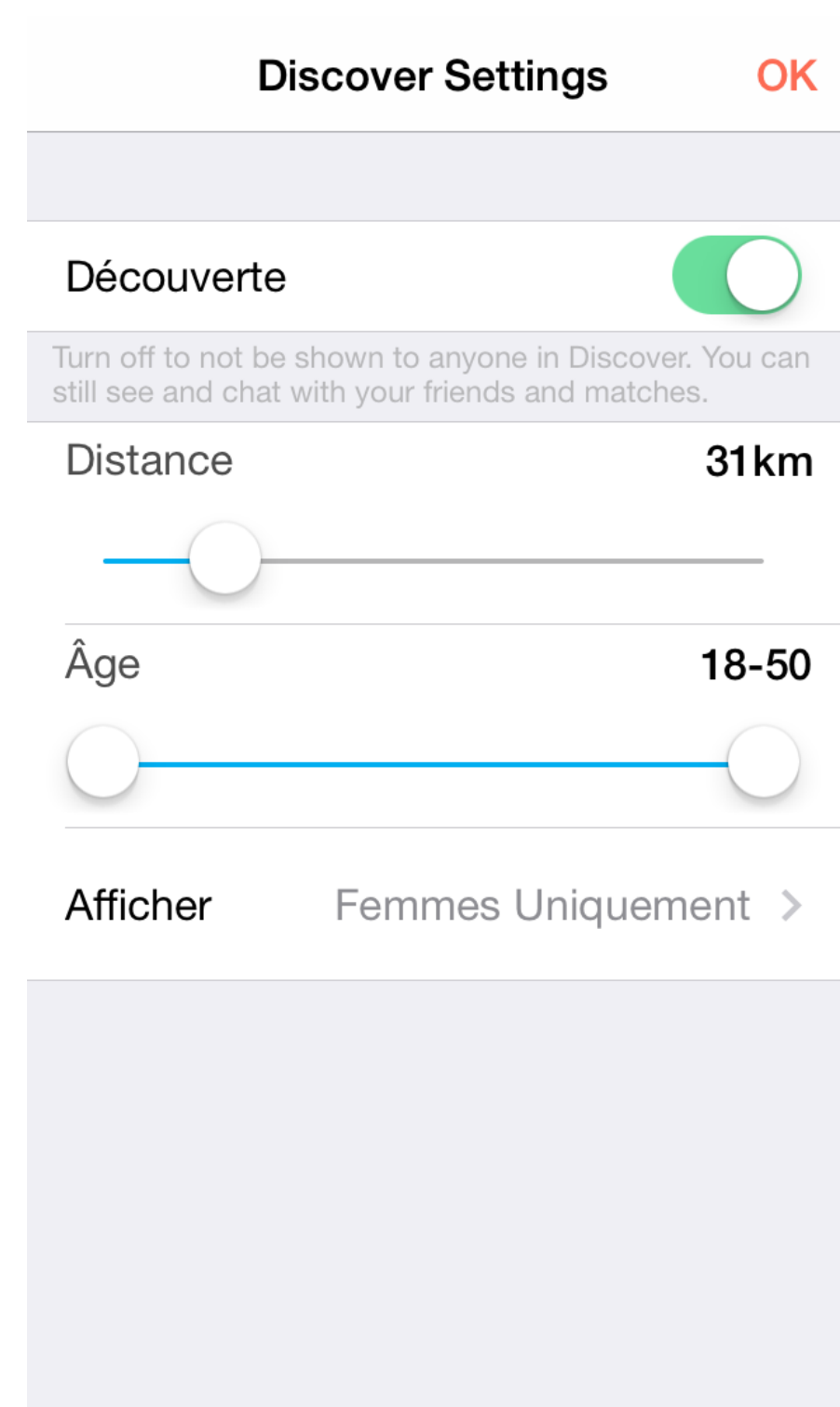
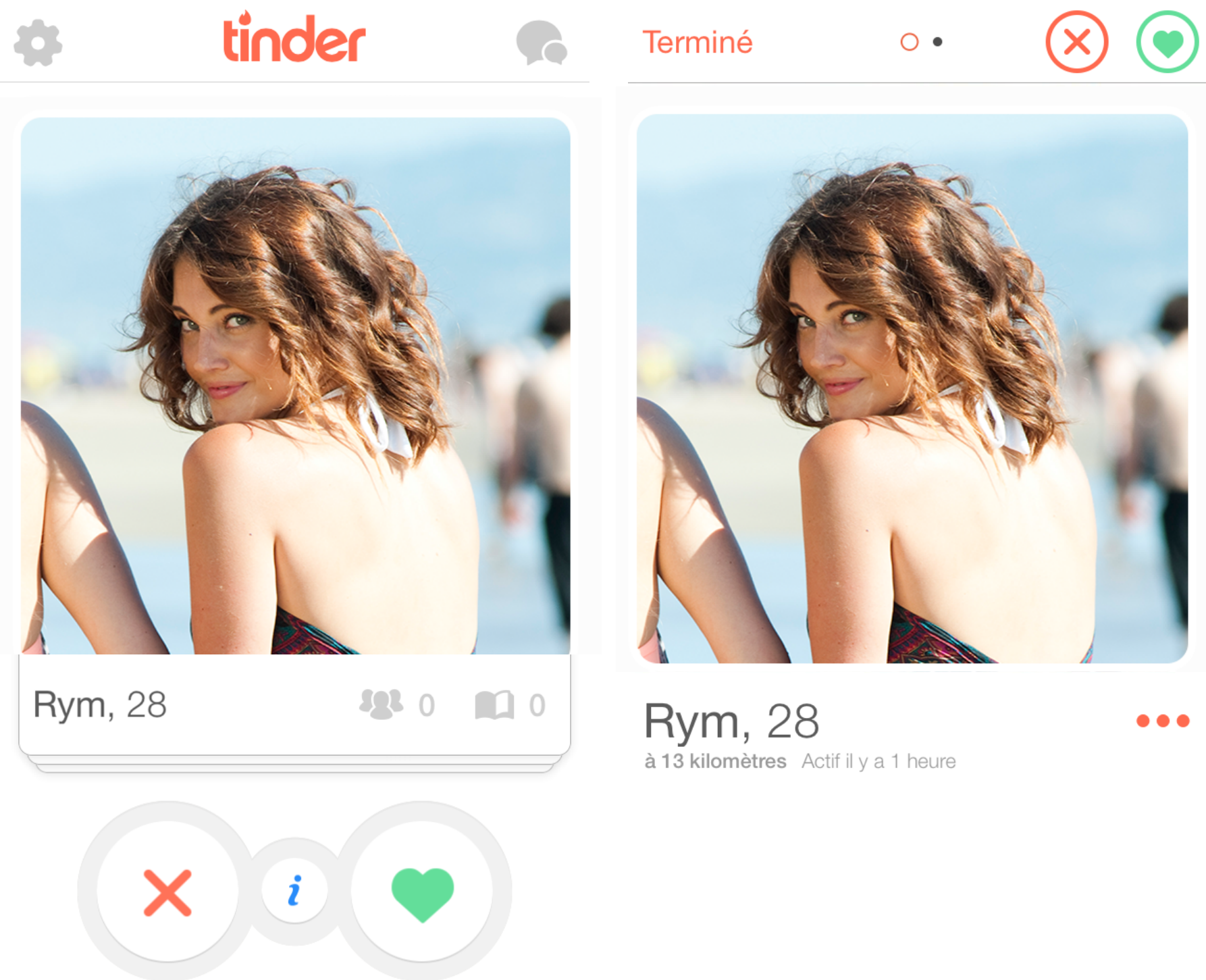
---

- Saisir le présent
- Saisir le changement
- Ne pas réduire le réel
- L'intelligence n'est pas dans les données
- Les données ne sont pas données
- Rendre les villes plus lisibles
- Actualiser les virtualités souhaitées
- Développer une politique des virtualités



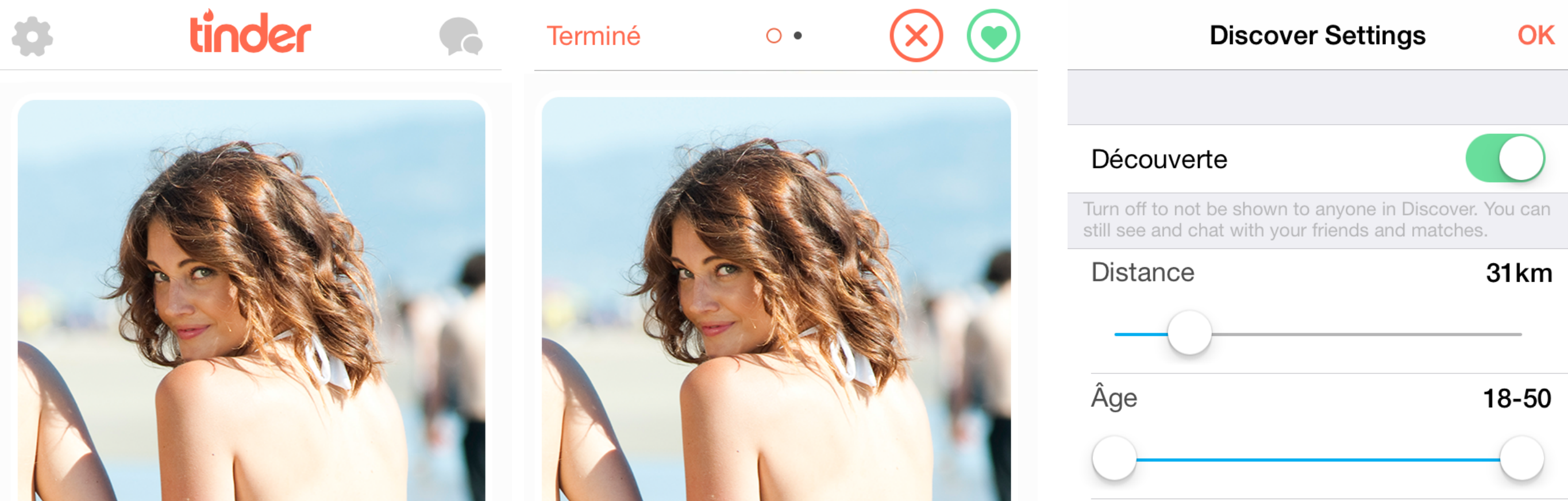


# Rendre lisibles les villes invisibles



*Tinder 2014*

# Rendre lisibles les villes invisibles



## Eliminate social barriers.

Tinder's vision is to eliminate the barriers involved in making new connections and strengthening existing ones. We believe in fun and familiar experiences that are designed to emulate and advance real world interactions.

*Tinder 2014*



# Rendre lisibles les villes invisibles

COMMANDEZ VOTRE  
CHAUFFEUR EN UN CLIC



uberPOP



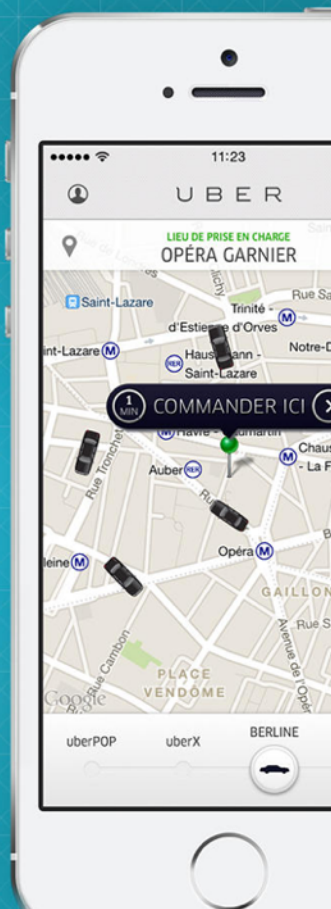
uberX



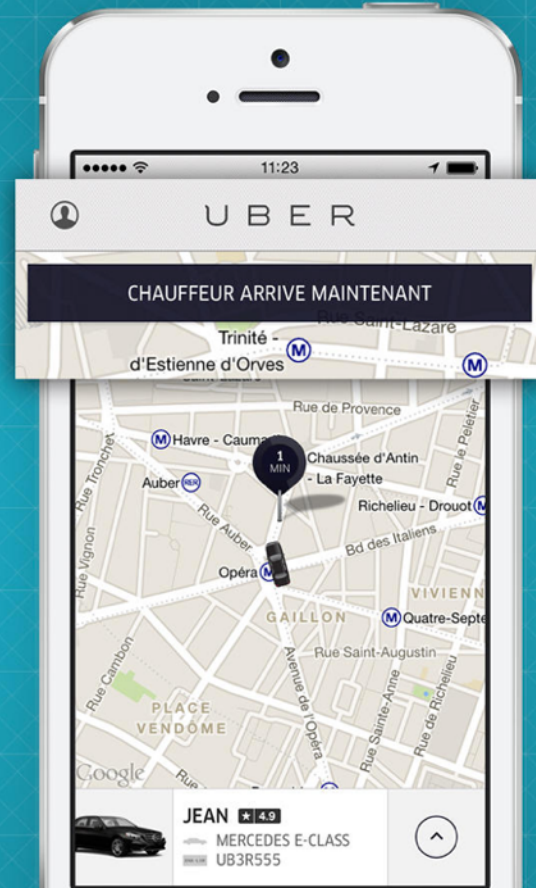
UberBERLINE



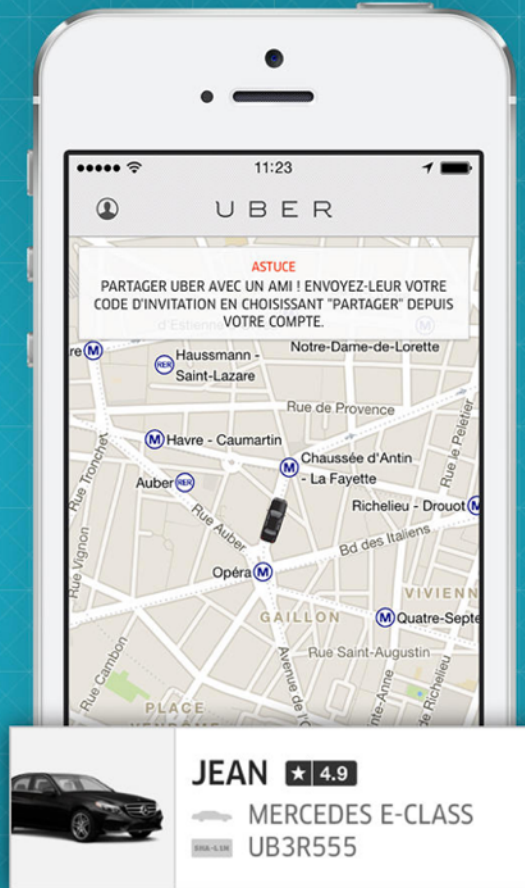
UberVAN



OBSERVEZ L'ARRIVÉE DE  
VOTRE CHAUFFEUR EN  
TEMPS RÉEL



VOYAGEZ AVEC UN  
CHAUFFEUR 5 ÉTOILES



PAYEZ AVEC VOTRE  
TÉLÉPHONE. PAS BESOIN  
D'UTILISER DES ESPÈCES.

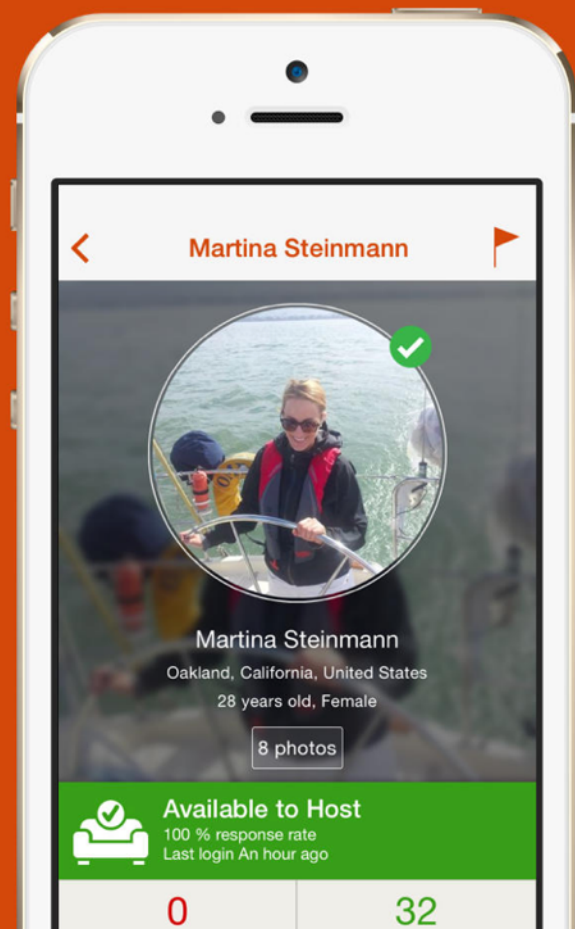


Uber, 2014

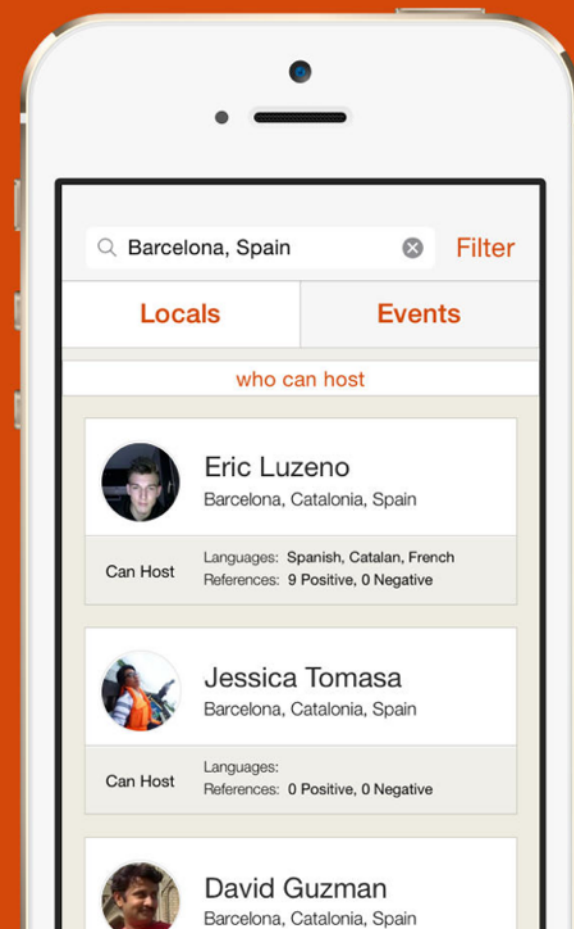


# Actualiser les virtualités

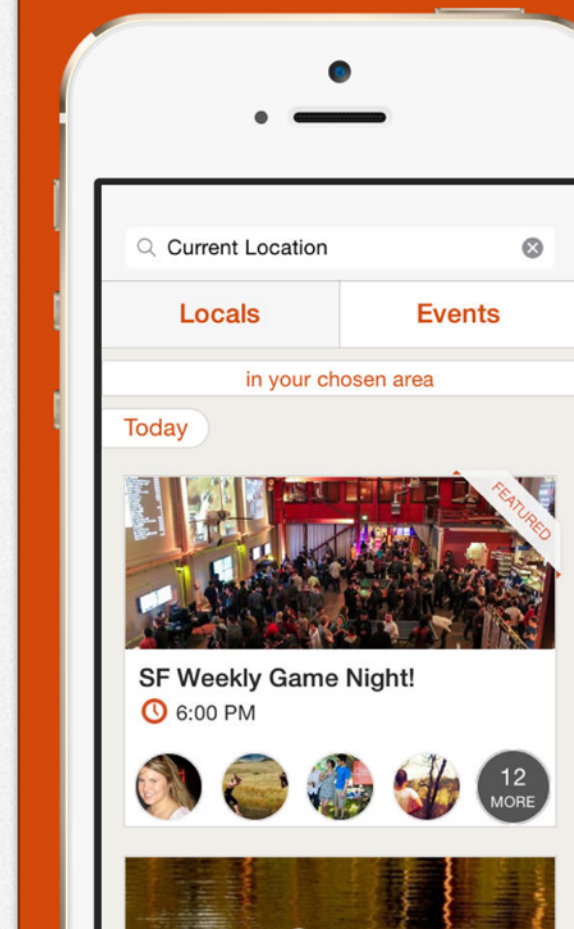
Stay with locals,  
not at hotels



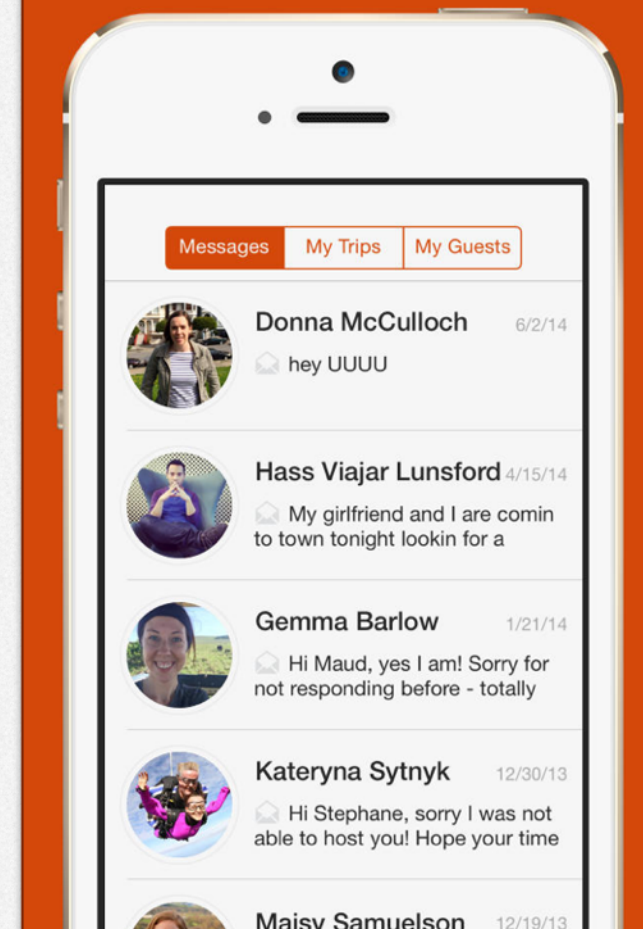
5.6 million hosts  
in 120,000 cities



Meet up with locals  
wherever you are



You've got friends  
in every country



Couchsurfing, 2014

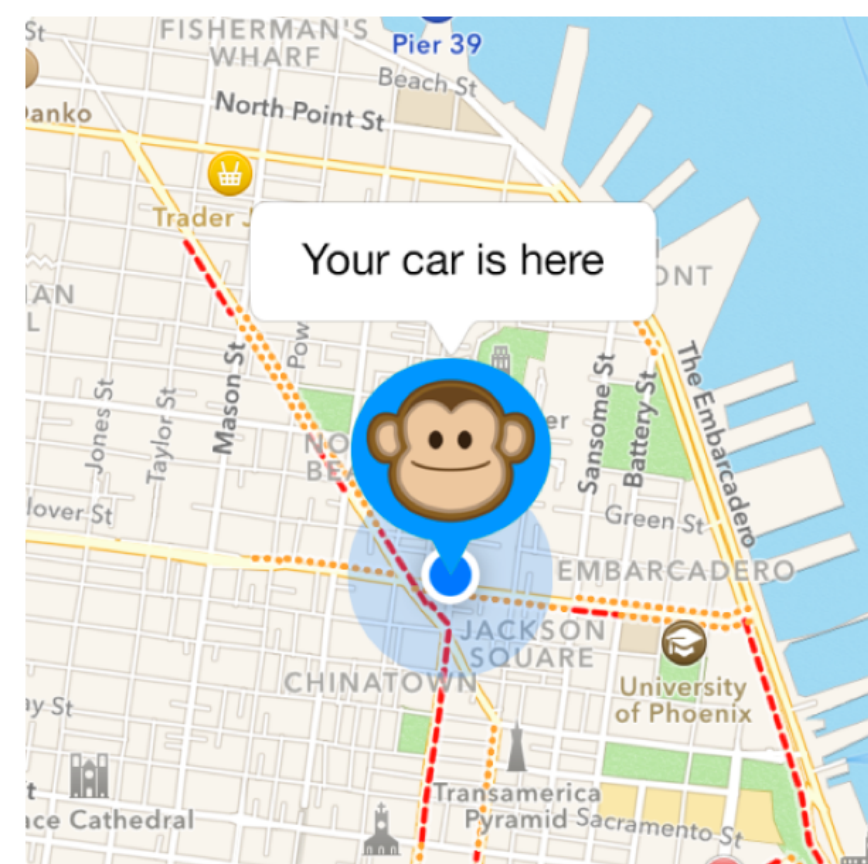


# Rendre lisibles les villes invisibles

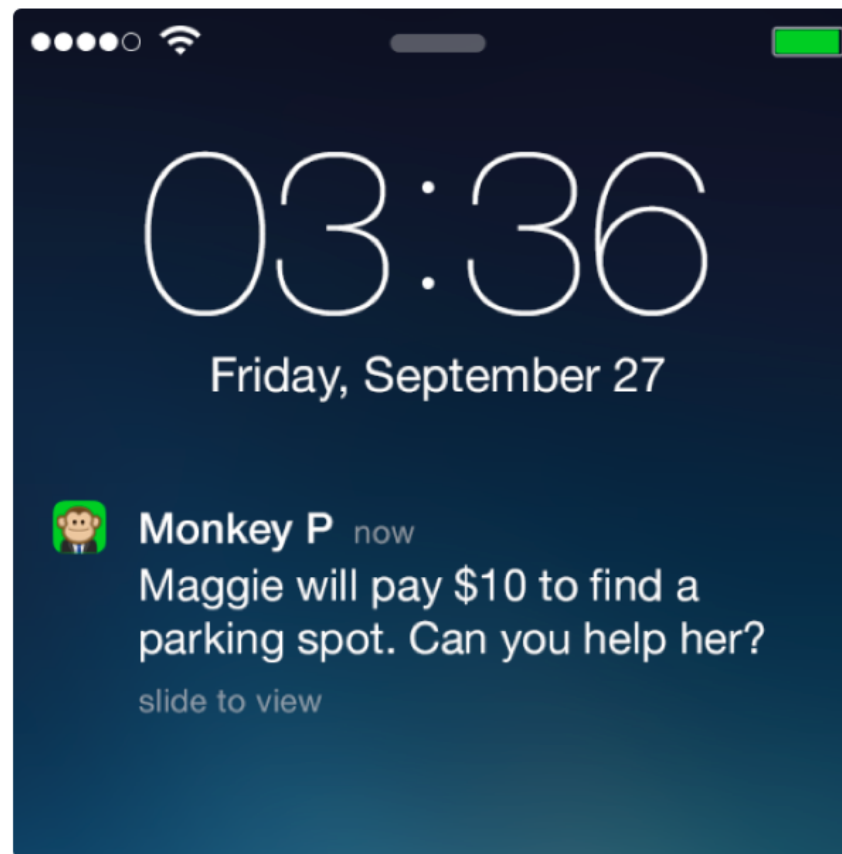


## MONKEYPARKING

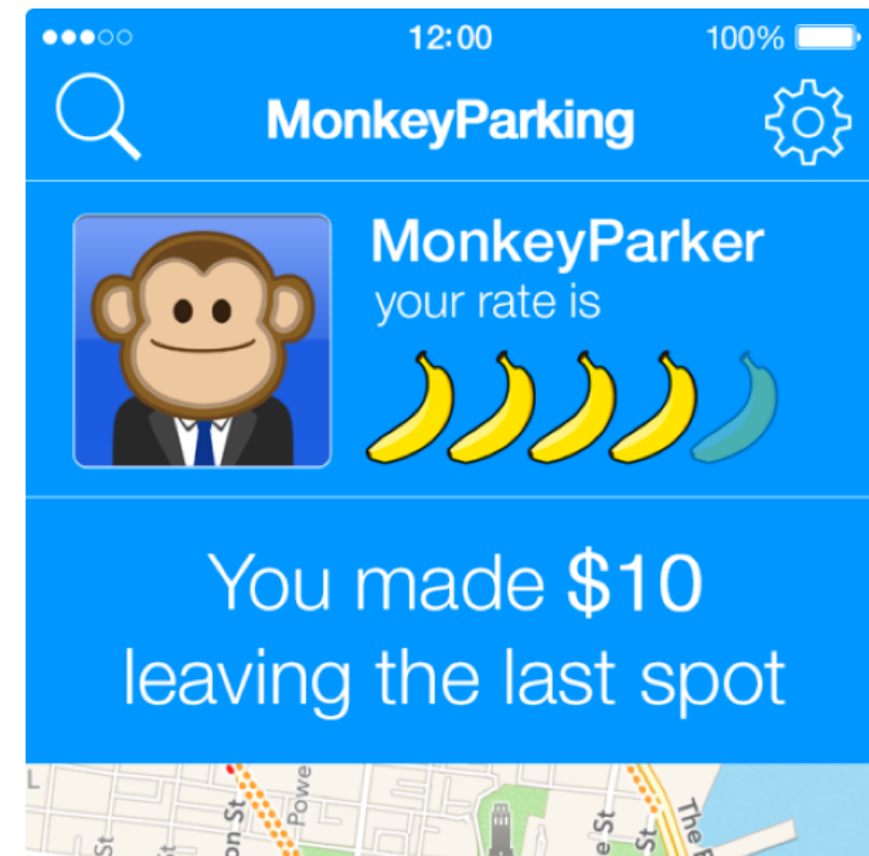
*on-street parking on demand*



Park your car



Start receiving alerts



Get connected and leave the spot

MonkeyParking, San Francisco, 2014